ORIGINAL

CITY OF NEWPORT, OREGON
PERSONAL SERVICES AGREEMENT

THIS AGREEMENT is between the City of Newport, an Oregon municipal corporation (City), and Loomacres, Inc. (Contractor). This Agreement shall be effective on the date last signed by a party below (Effective Date).

RECITALS

A. Contractor represents it has the training, ability, knowledge, and experience to provide services desired by the City; and

B. City selected Contractor to provide services, consistent with its public contracting rules.

1. SERVICES TO BE PROVIDED

A. Contractor will provide the services described in ITB and the Contractor's Proposal for Wildlife Hazard Assessment Services, dated April 15, 2014, both attached hereto and incorporated by reference as if fully set forth herein Exhibit C (hereinafter "Services").

B. In the course of providing Services under this Agreement, Contractor may have contact with the public. Contractor will maintain good relations with the public. The City may treat the failure to maintain good relations with the public as a non-curable breach of this Agreement and may disqualify Contractor from future work for the City.

2. COMPENSATION & TIMEFRAME

Contractor shall be compensated as described in Fee Schedule, attached hereto and incorporated herein by this reference as Exhibit B. Unless otherwise set forth in Exhibit C, Contractor shall begin Services on the Effective Date and shall complete Services no later than such date set forth in Exhibit C or as agreed upon in writing by the parties.

3. STATUS OF CONTRACTOR

Contractor certifies that:

A. Contractor is an independent contractor as defined by ORS 670.700 and not an employee of City, shall not be entitled to benefits of any kind to which an employee of City is entitled and shall be solely responsible for all payments and taxes required by law. Furthermore, in the event that Contractor is found by a court of law or any administrative agency to be an employee of City for any purpose, City shall be entitled to offset compensation due, or to demand repayment of any amounts paid to Contractor under the terms of this Agreement, to the full extent of any benefits or other remuneration Contractor receives (from City or third party) as a result of the finding and to the full extent of any payments that City is required to make (to Contractor or to a third party) as a result of the finding.

B. Contractor is not an officer, employee or agent of the City as those terms are used in ORS 30.265.

C. No employee of the City, or any partnership or corporation in which a City employee has an interest, has or will receive any remuneration of any description from Contractor, either directly or indirectly, in connection this Agreement, except as specifically declared in writing.

D. Contractor currently has a City business license or will obtain one prior to delivering Services under this Agreement.

4. WARRANTY & INDEMNIFICATION

A. City has relied upon the professional ability and training of Contractor as a material inducement to enter into this Agreement. Contractor warrants that all its work will be performed with good workmanship and in accordance with generally accepted professional practices and standards of the industry in which Contractor operates as well as the requirements of applicable federal, state and local laws. Contractor's work will conform to the requirements of this Agreement. Acceptance of Contractor's work by City shall not operate as a waiver or release of this warranty.

B. Contractor is fully liable for the acts and omissions of Contractor and Contractor's subcontractors which cause any damage, injury, death, property damage or loss to any person or property.

C. Contractor will indemnify and defend the City, its officers, agents, employees and volunteers and hold them harmless from any and all liability, causes of action, claims, losses, damages, judgments or other costs or expenses including attorney's fees that may be asserted by any person or entity which in any way arise from, during or in connection with the performance of the work described in this Agreement. Contractor's indemnification shall also cover claims brought against the City under state or federal workers' compensation laws. If any aspect of this indemnity shall be found to be illegal or invalid for any reason whatsoever, the illegality or invalidity shall not affect the validity of the remainder of this indemnification.

5. INSURANCE

Contractor and its subcontractors shall maintain insurance acceptable to City in full force and effect throughout the term of this Agreement. The insurance shall cover all activities of the Contractor arising directly or indirectly out of Contractor's work performed hereunder, including the operations of its subcontractors of any tier.

The policy or policies of insurance maintained by the Contractor and its subcontractor shall provide at least the following limits and coverages:

A. Commercial General Liability Insurance

Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this contract, Comprehensive General Liability Insurance covering Bodily Injury and Property Damage on an "occurrence" form (1996 ISO or equivalent). This coverage shall

include Contractual Liability insurance for the indemnity provided under this contract. The following insurance will be carried:

Coverage	Limit
General Aggregate	$1,300,000
Products-Completed Operations Aggregate	$1,300,000
Personal & Advertising Injury	$1,300,000
Errors & Omissions	$1,300,000
Each Occurrence	$1,300,000
Fire Damage (Any one fire)	$50,000
Medical Expense (Any one person)	$5,000

B. Commercial Automobile Insurance

Contractor shall also obtain, at Contractor's expense, and keep in effect during the term of the contract, Commercial Automobile Liability coverage including coverage for all owned, hired, and non-owned vehicles. The Combined Single Limit per occurrence shall not be less than $1,200,000.

C. Workers' Compensation Insurance

The Contractor, its subcontractors, if any, and all employers providing work, labor or materials under this Contract that are either subject employers under the Oregon Workers' Compensation Law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage that satisfies Oregon law for all their subject workers or employers that are exempt under ORS 656.126. Out-of-state employers must provide Oregon workers' compensation coverage for their workers who work at a single location within Oregon for more than 30 days in a calendar year. Contractors who perform work without the assistance or labor of any employee need not obtain such coverage. This shall include Employer's Liability Insurance with coverage limits of not less than $500,000 each accident.

D. Additional Insured Provision

The Commercial General Liability Insurance and Commercial Automobile Insurance policies and other policies the City deems necessary shall include the City as an additional insured with respect to this Agreement.

E. Notice of Cancellation

There shall be no cancellation, material change, exhaustion of aggregate limits or intent not to renew insurance coverage of Contractor's insurance without 30 days prior written notice to the City. Any failure to comply with this provision will not affect the insurance coverage provided to the City. The certificates of insurance provided to the City shall state that the insurer shall provide 30 days prior notice of cancellation to the City.

F. Certificates of Insurance

As evidence of the insurance coverage required by the Agreement, the Contractor shall furnish a Certificate of Insurance to the City. This Agreement shall not be effective until the required certificates have been received and approved by the City. The certificate

will specify and document all provisions within this Agreement. A renewal certificate will be sent to the City 10 days prior to coverage expiration.

G. Primary Coverage Clarification

The parties agree that Contractor's coverage shall be primary to the extent permitted by law. The parties further agree that other insurance maintained by the City is excess and not contributory insurance with the insurance required in this section.

H. Cross-Liability Clause

A cross-liability clause or separation of insureds clause will be included in all general liability, professional liability, pollution and errors and omissions policies required by this Agreement.

The procuring of required insurance shall not be construed to limit Contractor's liability under this Agreement.

6. METHOD & PLACE OF SUBMITTING NOTICE, BILLS AND PAYMENTS

Unless otherwise set forth herein, payment to Contractor shall be made by City within thirty (30) days of receipt of an approved invoice. An approved invoice is an invoice that has been signed by an authorized City individual. Payment may be withheld in the event the Services performed or an invoice submitted is disputed by the City. All notices, bills and payments shall be made in writing and may be given by personal delivery mail. Payments may be made by personal delivery, mail, or electronic transfer. The following addresses shall be used to transmit notices and other information:

City:
City of Newport
169 SW Coast Highway
Newport, Oregon 97365
541-574-3377

Contractor:
Cody Baciuska
Loomacres, Inc
PO Box 361
Warnerville, NY 12187
800-243-1462

Notices mailed to the address provided for notice in this section shall be deemed given upon deposit in the United States mail, postage prepaid. In all other instances, notices, bills and payments shall be deemed given at the time of actual delivery.

7. TERMINATION WITHOUT CAUSE

At any time and without cause, City shall have the right in its sole discretion, to terminate this Agreement by giving notice to Contractor. If City terminates the Agreement pursuant to this Section due to no fault of Contractor, City shall pay Contractor for all approved and undisputed services rendered up to the date of termination.

8. TERMINATION WITH CAUSE

A. City may modify or terminate this Agreement effective upon delivery of written notice to Contractor, or at such later date as may be established by City, under any of the following conditions:

1. If City funding from federal, state, local, or other sources is not obtained and continued at levels sufficient to allow for the purchase of the indicated quantity of services.
2. If federal or state regulations or guidelines are modified, changed, or interpreted in such a way that the Services are no longer allowable or appropriate under this Agreement.
3. If any license or certificate required by law or regulation to be held by Contractor, its subcontractors, agents, and employees to provide the Services required by this Agreement is for any reason denied, revoked, or not renewed.
4. If Contractor becomes insolvent, if voluntary or involuntary petition in bankruptcy is filed by or against Contractor, if a receiver or trustee is appointed for Contractor, or if there is an assignment for the benefit of creditors of Contractor.

Any such termination of this Agreement under subsection A will be without prejudice to any obligations or liabilities of either party already accrued prior to such termination.

B. City, by written notice to Contractor, may terminate the whole or any part of this Agreement:

1. If Contractor fails to provide Services as set forth in this Agreement within the time specified herein or any extension thereof, or
2. If Contractor fails to perform any provisions of this Agreement, or fails to pursue the work of this Agreement in accordance with its terms, and after receipt of written notice from City, fails to correct such failures within ten (10) days or such other period as City may authorize.

The rights and remedies of City provided in this Section are not exclusive and are in addition to any other rights and remedies provided by law or under this Agreement. If City terminates this Agreement under Section, Contractor shall be entitled to receive as full payment for all Services actually satisfactorily rendered and expenses incurred, provided however, that there shall be deducted from such amount the amount of damages, if any, sustained by City due to breach of this Agreement by Contractor.

9. ACCESS TO RECORDS

For a period of not less than three years after City's final payment to Contractor, Contractor shall permit the City, the State of Oregon and the Federal Government (if State or Federal funding is involved) to have access to all books, documents, papers and records of Contractor which are pertinent to the Services provided hereunder for purposes of audit, examination, excerpts and transcripts. Contractor shall retain those records for at least three years, or until litigation is resolved if litigation is instituted.

10. FORCE MAJEURE

Neither City nor Contractor shall be considered in default because of any delays in completion and responsibilities due to causes beyond the control and without fault or negligence on the part of the parties so disenabled, including but not restricted to, an act of nature or of a public enemy, civil unrest, earthquake, fire, flood, epidemic, quarantine restriction, strike, freight embargo, unusually severe weather; provided that the parties so disenabled shall notify the other party in writing of the cause of delay. Each party shall make reasonable efforts to remove or eliminate the cause of delay or default and shall, upon cessation of the cause, diligently

pursue performance of its obligations under the Agreement.

11. NON-DISCRIMINATION

Contractor agrees to comply with all applicable requirements of federal and state civil rights and rehabilitation statues, rules, and regulations. Contractor also shall comply with the Americans with Disabilities Act of 1990, ORS 659.425, and all regulations and administrative rules established pursuant to those laws.

12. ERRORS

Contractor will perform additional work as may be necessary to correct errors in Services performed under this Agreement without undue delay and without additional cost.

13. GOVERNING LAW

The provisions of this Agreement shall be construed in accordance with the laws of the State of Oregon. Any action or suits involving any question arising under this Agreement will be brought in the appropriate court of the State of Oregon. In any action arising under this Agreement, the losing party shall pay such sum as the court may adjudge including reasonable attorney fees and court costs.

14. ARBITRATION.

If any disputes, disagreements, or controversies arise between the parties pertaining to the interpretation, validity, or enforcement of this Agreement, the parties shall, upon the request of either party, submit such dispute to binding arbitration. Except as otherwise provided in this Agreement, arbitration shall be requested by delivering to the other party a written request for arbitration. Within five (5) days of receipt of such request, the parties shall select a mutually agreeable arbitrator and designate mutually agreeable rules of arbitration. If the parties cannot agree upon an arbitrator within five (5) days, an arbitrator may be appointed by the Lincoln County Circuit Court, upon the request of either party submitted in accordance with ORS 36.310. If the parties have not designated mutually agreeable rules of arbitration at such time as the arbitrator is appointed, the arbitrator shall adopt rules for the arbitration. The arbitrator's decision shall be binding upon the parties.

The City and Consultant agree to a consolidated arbitration of such claims, disputes, and other matters in question between themselves regarding the project, with claims, disputes, and other matters in question regarding the project between and among the City, Consultant and the City's third party designees and contractors and anyone else under contract with the City or any other party to perform work or services related to the project.

Notwithstanding any dispute under this Agreement, whether before or during arbitration, the Consultant shall continue to perform its work pending resolution of a dispute, and the City shall make payments as required by the Agreement for undisputed portions of work.

15. ATTORNEY FEES.

If either party commences any arbitration, suit, or proceeding against the other to rescind, interpret or enforce the terms of this contract, the parties agree that the prevailing party shall be

awarded reasonable attorney's fees and costs incurred in any such arbitration, action, suit or proceeding and in any later appeals filed as a consequence thereof. Such costs shall bear interest at the maximum legal rate from the date incurred, until the date paid by losing party.

16. COMPLIANCE WITH LAWS AND RULES

Contractor shall comply with all applicable federal, state and local laws, rules and regulations, including, but not limited to, requirements concerning working hours, overtime, medical care, workers compensation insurance, health care payments, payments to employees and subcontractors and income tax withholding, including, without limitation, applicable provisions of the Oregon Public Contract Code including ORS 279B.020, 279B.220, 279B.230, and 279B.235, as more particularly set forth on Exhibit B, attached hereto and incorporated herein by this reference.

17. CITY OWNERSHIP

All Contractor's work product accomplished under this Agreement, whether in the form of designs, drawings, as-builts, diagrams, specifications, reports, or other writings, shall become the exclusive property of the City. The City is the owner of any copyrights thereto, upon City's final payment to Contractor.

18. AGREEMENT

A. This writing is intended both as a final expression of the Agreement between the parties with respect to the included terms and as a complete and exclusive statement of the terms of the Agreement. This Agreement incorporates the City's Request for Proposal/Solicitation of Bids document and Contractor's Response/Bid. In the event of a conflict between the terms of this Agreement and any incorporated document, unless otherwise specifically stated, this Agreement will control.

B. No modification of this Agreement shall be effective unless and until it is made in writing and signed by both parties. Payment shall not be made for any Services not set forth in Exhibit B without the written agreement with the City. In the event Contractor and City agree to any modification in the Services set forth in Exhibit B, the parties will execute an amendment to this Agreement, reflecting such modification.

C. Neither party shall assign or transfer any interest in or duty under this Agreement without the written consent of the other party. Notwithstanding City approval of a subcontractor or assignee, the Consultant shall remain obligated for full performance hereunder, and the City shall incur no obligation other than its obligations to the Contract hereunder.

D. This Agreement and all exhibits and addenda hereto are complementary and what is required in one shall be binding as if required by all. If there is a conflict between terms of the documents, the more specific requirement shall govern over the more general. No term of this Agreement is intended to waive or supersede a legally mandated term of this Agreement under ORS Chapter 279, 279A, 279B, and 279C, and Administrative Rules promulgated to implement those ORS Chapters.

E. The failure of City to insist upon or enforce strict performance by Contractor of any of the terms of this Agreement or to exercise any rights hereunder should not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights on any future occasion.

By authorized signature hereunder, each party sets their hand to this Agreement:

CITY OF NEWPORT:

By: Spencer Nebel, City Manager

05/13/14
Date

CONTRACTOR:

By:
CODY BACIUSKA
VICE PRESIDENT

5/2/14
Date

EXHIBIT A

ORS CHAPTER 279B PUBLIC CONTRACTING REQUIREMENTS FOR THE PURCHASE OF GOODS AND SERVICES

(1) Contractor shall pay promptly, as due, all persons supplying labor or materials for the prosecution of the work provided for in the contract, and shall be responsible for such payment of all persons supplying such labor or material to any Subcontractor. ORS 279B.220(1).

(2) Contractor shall promptly pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the contract. ORS 279B.220(2).

(3) Contractor shall not permit any lien or claim to be filed or prosecuted against the Contracting Agency on account of any labor or material furnished and agrees to assume responsibility for satisfaction of any such lien so filed or prosecuted. ORS 279B.220(3).

(4) Contractor and any Subcontractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.617. ORS 279B.220(4).

(5) Contractor agrees that if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or materials furnished to the Contractor or a Subcontractor by any person in connection with the contract as such claim becomes due, the City may pay such claim to the persons furnishing the labor or material and charge the amount of payment against funds due or to become due Contractor by reason of the contract. The payment of a claim in the manner authorized hereby shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claim. If the City is unable to determine the validity of any claim for labor or material furnished, the City may withhold from any current payment due Contractor an amount equal to said claim until its validity is determined and the claim, if valid, is paid.

(6) Contractor shall promptly, as due, make payment to any person, copartnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service. ORS 279B.230(1).

(7) All subject employers working under the Contractor are either employers that will comply with ORS 656.017, or employers that are exempt under ORS 656.126. ORS 279B.230(2).

(8) Contractor shall pay employees for overtime work performed under the contract in accordance with ORS 653.010 to 653.261 and the Fair Labor Standards Act of 1938 (29 USC 201, et seq). ORS 279B.235(3).

(9) The Contractor must give notice to employees who work on this contract in writing, either at the time of hire or before commencement of work on the contract, or by posting a

notice in a location frequented by employees, of the number of hours per day and the days per week that the employees may be required to work. ORS 279B.235(2).

(10) All sums due the State Unemployment Compensation Fund from the Contractor or any Subcontractor in connection with the performance of the contract shall be promptly so paid. ORS 701.430.

(11) The contract may be canceled at the election of City for any willful failure on the part of Contractor to faithfully perform the contract according to its terms.

(12) Contractor certifies compliance with all applicable Oregon tax laws, in accordance with ORS 305.385.

(13) Contractor certifies that it has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontractors. ORS 279A.110.

(14) As used in this section, "nonresident contractor" means a contractor that has not paid unemployment taxes or income taxes in the state of Oregon during the 12 calendar months immediately preceding submission of the bid for the contract, does not have a business address in this state, and stated in the bid for the contract that it was not a "resident bidder" under ORS 279A.120. When a public contract is awarded to a nonresident contractor and the contract price exceeds $10,000, the contractor shall promptly report to the Department of Revenue on forms to be provided by the department the total contract price, terms of payment, length of contract and such other information as the department may require before the bidder may receive final payment on the public contract. ORS 279A.120.

LABOR RATES

EXHIBIT B
RATES/COSTS

Labor Rates	
Project Manager (PM)	$ 162.00
Airport Biologist (AB)	$ 69.24
Admin. Assistant (AA)	$ 33.33

BID SCHEDULE:

SECTION VII: BID SCHEDULE

LINE ITEM	DESCRIPTION	QTY	UNIT	COST	EXTENDED COST
1	WILDLIFE HAZARD ASSESSMENT	1	LS	$38,115.25	$38,115.25
				TOTAL BASE BID:	$38,115.25
ADDITIVE ALTERNATE					
A	WILDLIFE HAZARD MANAGEMENT PLAN	1	LS	$1,274.47	$1,274.47
				TOTAL WITH ADDITIVE ALTERNATE:	$39,389.72

LICENSES AND PERMITS:

Loomacres Inc. maintains all necessary permits and licenses to conduct wildlife management activities on airports Loomacres Inc. should be listed as a sub-permittee on all appropriate permits. Loomacres Inc. will act as a liaison with both State and Federal agencies to assist the airport with necessary application, permitting and reporting procedures. Loomacres Inc. will assist airport personnel with the maintenance and renewal of Wildlife Permits.

INSURANCE:

Loomacres Inc. maintains liability insurance coverage consisting of 2,000,000.00 per incident, 4,000,000.00 aggregate and an additional 2,000,000 umbrella policy. We also carry 2,000,000 in professional, 1,000,000 in vehicle, and 500,000 in workmen's comp. If additional insurance is required Loomacres Inc. will acquire and present appropriate documentation prior to the start of this project. Please see Appendix V for Insurance Accord.

SECURITY AND VEHICLE OPERATION:

EXHIBIT C
INVITATION TO BID

CITY OF NEWPORT, OREGON

INVITATION TO BID

WILDLIFE ASSESSEMENT SERVICES

NEWPORT
OREGON

SUBMIT PROPOSAL TO:
Spencer Nebel
City Manager
City of Newport
169 SW Coast Highway
Newport, Oregon 97365

Due Date: 24 APR 2014

Invitiation to Bid (ITB)
Wildlife Hazard Assessment (WHA) for
Newport Municipal Airport

Pursuant to City Public Contracting Rule E-17, regarding formal selection procedures for personal service contracts, the City of Newport (City) is seeking proposals from well-qualified individuals/organizations to conduct a Wildlife Hazard Assessment (WHA) for the City, and create of a Wildlife Hazard Management Plan (WHMP) if required after the Assessment. The City will receive sealed bids up to the hour of 2:00 PM on the 24 day of April, 2014, addressed to Spencer Nebel, City Manager, at the **City Manager's Office, 169 SW Coast Highway, Newport, OR 97365**.

I. PRE-SUBMITTAL MEETING

No pre-submittal meeting will be held for this ITB.

II. OBJECTIVE

In general, this project will consist of the awarded consultant conducting a Wildlife Hazard Assessment (WHA) and creation of a Wildlife Hazard Management Plan (WHMP) if required after the Assessment.

Awardee will:

- Conduct a comprehensive Wildlife Hazard Assessment.
- Identify factors contributing to wildlife hazard.
- Create a Wildlife Hazard Management Plan. (if assessment requires a plan)

The Wildlife Hazard Assessment must be conducted by a qualified wildlife biologist who meets the requirements in Advisory Circular 150/5200-36A, Qualifications for Wildlife Biologists Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards at Airports.

Attached are the following additional requirements applicable to the scope of work:

1) AC 150/5200: Protocol for the Conduct and Review of Wildlife Hazard Sit Bistis, Wildlife Hazard Assessments, and Wildlife Hazard Managerment Plans (DRAFT)
2)
3) AC 150/5200-33B: Hazardous Wildlife Attractants on or Near Airports

The Wildlife Hazard Assessment must be conducted in accordance with PROTOCOL FOR THE CONDUCT OF A WILDLIFE HAZARD. The Wildlife Hazard Management Plan, if

required by the assessment, must meet criteria listed under PROTOCOL FOR THE PREPARATION OF A WILDLIFE HAZARD MANAGEMENT PLAN.

III. SCOPE OF SERVICES

1. The **City of Newport** is requesting proposals from qualified individuals or firms to conduct a WHA. The WHA shall meet all requirements of CFR 139.337 to include:

   (1) An analysis of events that prompted the assessment.

   (2) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.

   (3) Identification and location of features on or near the airport that attract wildlife.

   (4) A description of wildlife hazards to air carrier operations.

   (5) Recommended actions for reducing wildlife hazards to air carrier operations.

2. The WHA shall be conducted by a qualified wildlife biologist who meets the requirements of Advisory Circular 150/5200-36. These requirements are:

   (1) Have the necessary academic coursework from accredited institutions and work experience to meet the qualifications of a GS-0486 series wildlife biologist as defined by the U.S. Office of Personnel Management classification standards (Appendix A of AC 150/5200-36A), or, be designated as a Certified Wildlife Biologist by the Wildlife Society (http://www.wildlife.org), and,

   (2) Have taken and passed an airport wildlife hazard management training course acceptable to the Administrator, and,

   (3) While working under the direct supervision of a qualified wildlife biologist, have conducted at least one WHA acceptable to the FAA Administrator (as described in CFR 139.337(c)), and,

   (4) Have successfully completed at least one of the following within the past 3 years:

      a. An airport wildlife hazard management training course that is acceptable to the FAA Administrator, or,

      b. Attendance, as a registered participant, at a joint Birdstrike Committee-USA/Bird Strike Committee-Canada annual meeting, or

      c. Other training acceptable to the FAA Administrator.

(5) Individuals who work under the direct supervision of a qualified airport wildlife biologist are allowed to conduct Wildlife Hazard Assessments if the airport sponsor and the qualified airport wildlife biologist agree in writing to determine how the qualified airport wildlife biologist will:

a. Supervise how the individual(s) will conduct the Wildlife Hazard Assessment; and

b. Report progress of the Wildlife Hazard Assessment; and

c. Supervise the Wildlife Hazard Assessment report production.

IV. SCHEDULE

Event	Date
Advertise Invitation to Bid	April 9, 2014
Bids Due	April 24, 2014
Evaluations Completed By	April 30, 2014
Proposal Award Date	May 5, 2014
Study Shall Commence	May 2014
Study Complete, Including Report Submittals	June 30, 2015

V. SUBMITTAL

Submit 1 original pursuant to the following specific requirements:

1. The City may modify this ITB via addenda before the bid due date. Please check www.orpin.oregon.gov website for updates. Receipt of all addenda must be acknowledged in submitted bids.

2. Proposers responding to this ITB do so solely at their expense. The City is not responsible for any proposer's expenses associated with responding to this ITB.

3. Proposers are directed to the protest procedures as set forth in the City Rules 137-047-0730 and 137-047-0740.

4. Each proposal must include the information: 1) required by Section VI, Proposal Requirements; 2) showing how Proposer will address the requirements of Section III, SCOPE OF SERVICES, and address the criteria by which the proposals will be evaluated and ranked, set forth in Section VII, ACCEPTANCE/EVALUATION of this ITB.

VI. BID REQUIREMENTS

All Proposals must include the following information. Proposals shall be considered technical offers of what firms propose to provide and shall be incorporated in the contract award as deemed appropriate by the **City of Newport**. Failure to respond to any of the following submittal requirements may be grounds for considering any submitted proposal non-responsive. Proposals will only be considered from firms that have documented experience of similar projects and qualified personnel who are capable of providing the required services.

At a minimum, bids shall include:

1. Introductory Letter. Each proposal shall include an introductory or cover letter on company letter head, including the firm's legal name, address, and telephone and fax number. The consultant may use this section to introduce the proposal and the key provisions of the submittal

2. Statement of Qualifications (SOQ) documentation verifying the wildlife biologist conducting the WHA meets the requirements of AC 150/5200-36 as delineated in Section III, Paragraph (2) (above). In lieu of this documentation, the wildlife biologist may show evidence they have been deemed "qualified" by inclusion in Embry-Riddle Aeronautical University's Qualified Airport Biologists Listing (http://wildlifecenter.pr.erau.edu/biologists.php).

3. A proposed Statement of Work (SOW) - The response to this RFQ shall include a detailed SOW delineating the work to be performed in conducting the WHA to meet the requirements of CFR 139.337 as listed in Paragraph V.1 (above) and attachments A and B referenced in Section II. The SOW shall include statements as to how the biologist intends to meet the "Duration of Wildlife Hazard Assessment and Basic Survey Techniques" described in Paragraph 6.2.c of the Wildlife Hazard Management Manual at Airports. The latter document is available free of charge at the FAA's Wildlife Hazard Mitigation Website (http://wildlife-mitigation.tc.faa.gov). The SOW shall also include the listing of the qualifications/aviation wildlife hazard management experience of the individual conducting the surveys and level/description of direct supervision given to the surveyor by the qualified airport biologist in accordance with Scope of Services, Section III, above.

4. Schedule - Responder shall submit a project schedule to include, at a minimum, commencement and completion of the assessment process, key meetings and significant events and/or activities, and submission of a preliminary WHA report to the Newport Municipal Airport. The Newport Municipal Airport would be expected to respond either approving the submission or provide comments. A Final WHA will be submitted after receipt of the Newport Municipal Airport comments.

5. Proposed Costs - The submitter shall submit proposed costs associated with two contracts. The first shall cover costs associated with the period from contract

notice to proceed to approval of the final WHA report. The second shall cover costs to develop the WHMP.

6. A description of the firm's recent experience, especially with similar projects, and project location.

7. The firm's understanding of the project as advertised;

8. Insurance Certification: Submit current insurance certificates for professional liability insurance, which indicate limits of liability. If selected, the successful firm shall provide certificates of insurance that also name the City of Newport as additional insured. Certification must be in focus and readable.

9. The name of the person(s) authorized to represent the responding in negotiating and signing any agreement which may result from the proposal.

10. Name and qualifications of the individual who will serve as the Project Biologist.10. The names of the professional persons who will assist the Project Biologist in performing the work and a current résumé for each, including a description of qualifications, skills, and responsibilities.

11. Written affirmation that the proposer has a policy of nondiscrimination in employment because of race, age, color, sex, religion, national origin, mental or physical handicap, political affiliation, marital status or other protected class, and has a drug-free workplace policy.

12. Proof of insurance for a minimum of $1.3 million professional liability insurance, plus $1.3 million comprehensive and automobile liability insurance. Proof of coverage by Workers' Compensation Insurance or exemption.

13. A list of the tasks, responsibilities, and qualifications of any subconsultants proposed to be used on a routine basis and proof of adequate professional liability insurance for any subconsultants.

14. Certification that the respondent is an qualified wildlife biologist certified to work on WHA projects. Certification must be in focus and readable.

15. Confirmation that the proposer will make available the necessary personnel for this work. This should include the proximity of personnel to the City, and affirmation that such personnel can respond to City inquiries and/or be onsite within a maximum of 24-hours.

16. The following statement: "*The consultant accepts all the terms and conditions contained in the Request for Proposals and that this proposal shall be considered valid for 120 days*

after the submission deadline."

17. The following statement: *"All materials and documents acquired or produced by the consultant in conjunction with a resulting contract shall be delivered to and become property of the City of Newport without restriction or limitation of their future use."*

18. Support Information. Proposer may provide supporting material that it believes will assist the Selection Committee in the decision process. Only relevant information should be submitted. Items that may be included in the Appendix as support material include: Graphs and figures, Additional references, Project photos, Insurance certificate. If the consultant does not wish to include support information in the Appendix, please include a page indicating that "No additional support material has been provided."

19. Any other qualifications and/or criteria mentioned in other sections of this ITB.

VII. ACCEPTANCE/EVALUATION OF ITB

A. Evaluation Criteria: low, responsive bidder

SECTION VII: BID SCHEDULE

LINE ITEM	DESCRIPTION	QTY	UNIT	COST	EXTENDED COST
1	WILDLIFE HAZARD ASSESSMENT	1	LS		
				TOTAL BASE BID:	
ADDITIVE ALTERNATE					
A	WILDLIFE HAZARD MANAGEMENT PLAN	1	LS		
				TOTAL WITH ADDITIVE ALTERNATE:	

B. Evaluation Process

Proposals will be initially screened pursuant to the following minimum qualifications:

1. Proposer is a qualified wildlife biologist.

2. Proposer's ability to provide the assessment needed by City to the standards mentioned throughout this ITB.

2. Proposer is an Equal Opportunity Employer and being otherwise qualified by law to enter into the professional services agreement.

Once the initial screening process is completed, the remaining proposals will be evaluated under the criteria and weights accorded in Section VII.A, above. If the City deems it desirable, the City may elect to interview one or more of the top candidates.

The City will conduct a preliminary evaluation of all bid proposals to determine compliance with proposal requirements and mandatory document submissions. The City reserves the right to request additional information to clarify the content of a proposal.

All proposals shall be reviewed to determine that the minimum eligibility requirements have been met. Ineligible proposers will be informed in writing.

Proposals shall be evaluated on a low bid scoring, and a recommendation forwarded to the City Council for award. The Council may accept or reject the recommendation.

The proposer selected to perform the services outlined in this ITB will execute the attached agreement form with the City of Newport within **10 Days**. The services and responsibilities set forth in this ITB, together with any other documents required herein, shall be included in the contract executed by the successful proposer, as indicated in the attached contract form. Any open terms in the attached contract will be completed based upon City negotiation and awardee's proposal. Submittal of a proposal indicates a proposer's intent to execute the attached contract terms and be bound thereby.

The City reserves the right to verify all information received in each submitted proposal. If the proposer knowingly and willfully submits false information or data, the City reserves the right to reject that proposal. If it is determined that an agreement was awarded because of false statements, or other data submitted in response to this ITB, the City reserves the right to terminate the agreement.

It is the desire of the City to have a wildlife biologist contract in place no later than **May 16, 2014**.

VIII. MISCELLANEOUS

The City reserves the right to: 1) Seek clarifications of each proposal; 2) Negotiate a final contract that is in the best interests of the City and the public; 3) Reject any or all proposals or cancel this ITB at any time if doing either would be in the public interest, as determined by the City in its sole discretion; 4) Award the contract to any proposer based on the evaluation criteria set forth in this ITB; 5) Waive minor informalities contained in any proposal, when, in the City's sole judgment, it is in the City's best interest to do so; and 6) Request any additional information City deems reasonably necessary to allow City to evaluate, rank and select the most qualified proposer to perform the services described in this ITB.

IX. ADDITIONAL INFORMATION

For additional information, please contact:

Melissa Román
Engineering Technician/Project Manager
Public Works
169 SW Coast Highway
Newport, OR 97365
541.574.3377
m.roman@newportoregon.gov

APPENDIX A
CITY OF NEWPORT, OREGON
PERSONAL SERVICES AGREEMENT
DRAFT

THIS AGREEMENT is between the City of Newport, an Oregon municipal corporation (City), and _____ (Contractor). This Agreement shall be effective on the date last signed by a party below (Effective Date).

RECITALS

A. Contractor represents it has the training, ability, knowledge, and experience to provide services desired by the City; and

B. City selected Contractor to provide services, consistent with its public contracting rules.

1. SERVICES TO BE PROVIDED

A. Contractor will provide the services described in ITB and the Contractor's Proposal for _____, dated _____, 201__, both attached hereto and incorporated by reference as if fully set forth herein Exhibit C (hereinafter "Services").

B. In the course of providing Services under this Agreement, Contractor may have contact with the public. Contractor will maintain good relations with the public. The City may treat the failure to maintain good relations with the public as a non-curable breach of this Agreement and may disqualify Contractor from future work for the City.

2. COMPENSATION & TIMEFRAME

Contractor shall be compensated as described in Fee Schedule, attached hereto and incorporated herein by this reference as Exhibit B. Unless otherwise set forth in Exhibit C, Contractor shall begin Services on the Effective Date and shall complete Services no later than such date set forth in Exhibit C or as agreed upon in writing by the parties.

3. STATUS OF CONTRACTOR

Contractor certifies that:

A. Contractor is an independent contractor as defined by ORS 670.700 and not an employee of City, shall not be entitled to benefits of any kind to which an employee of City is entitled and shall be solely responsible for all payments and taxes required by law. Furthermore, in the event that Contractor is found by a court of law or any administrative agency to be an employee of City for any purpose, City shall be entitled to offset compensation due, or to demand repayment of any amounts paid to Contractor under the terms of this Agreement, to the full extent of any benefits or other remuneration Contractor receives (from City or third party) as a result of the finding and to the full extent of any payments that City is required to make (to Contractor or to a third party) as a result of the finding.

B. Contractor is not an officer, employee or agent of the City as those terms are used in ORS 30.265.

C. No employee of the City, or any partnership or corporation in which a City employee has an interest, has or will receive any remuneration of any description from Contractor, either directly or indirectly, in connection this Agreement, except as specifically declared in writing.

D. Contractor currently has a City business license or will obtain one prior to delivering Services under this Agreement.

4. WARRANTY & INDEMNIFICATION

A. City has relied upon the professional ability and training of Contractor as a material inducement to enter into this Agreement. Contractor warrants that all its work will be performed with good workmanship and in accordance with generally accepted professional practices and standards of the industry in which Contractor operates as well as the requirements of applicable federal, state and local laws. Contractor's work will conform to the requirements of this Agreement. Acceptance of Contractor's work by City shall not operate as a waiver or release of this warranty.

B. Contractor is fully liable for the acts and omissions of Contractor and Contractor's subcontractors which cause any damage, injury, death, property damage or loss to any person or property.

C. Contractor will indemnify and defend the City, its officers, agents, employees and volunteers and hold them harmless from any and all liability, causes of action, claims, losses, damages, judgments or other costs or expenses including attorney's fees that may be asserted by any person or entity which in any way arise from, during or in connection with the performance of the work described in this Agreement. Contractor's indemnification shall also cover claims brought against the City under state or federal workers' compensation laws. If any aspect of this indemnity shall be found to be illegal or invalid for any reason whatsoever, the illegality or invalidity shall not affect the validity of the remainder of this indemnification.

5. INSURANCE

Contractor and its subcontractors shall maintain insurance acceptable to City in full force and effect throughout the term of this Agreement. The insurance shall cover all activities of the Contractor arising directly or indirectly out of Contractor's work performed hereunder, including the operations of its subcontractors of any tier.

The policy or policies of insurance maintained by the Contractor and its subcontractor shall provide at least the following limits and coverages:

A. Commercial General Liability Insurance

Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this contract, Comprehensive General Liability Insurance covering Bodily Injury and

Property Damage on an "occurrence" form (1996 ISO or equivalent). This coverage shall include Contractual Liability insurance for the indemnity provided under this contract. The following insurance will be carried:

Coverage	Limit
General Aggregate	$1,300,000
Products-Completed Operations Aggregate	$1,300,000
Personal & Advertising Injury	$1,300,000
Errors & Omissions	$1,300,000
Each Occurrence	$1,300,000
Fire Damage (Any one fire)	$50,000
Medical Expense (Any one person)	$5,000

B. Commercial Automobile Insurance

Contractor shall also obtain, at Contractor's expense, and keep in effect during the term of the contract, Commercial Automobile Liability coverage including coverage for all owned, hired, and non-owned vehicles. The Combined Single Limit per occurrence shall not be less than $1,200,000.

C. Workers' Compensation Insurance

The Contractor, its subcontractors, if any, and all employers providing work, labor or materials under this Contract that are either subject employers under the Oregon Workers' Compensation Law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage that satisfies Oregon law for all their subject workers or employers that are exempt under ORS 656.126. Out-of-state employers must provide Oregon workers' compensation coverage for their workers who work at a single location within Oregon for more than 30 days in a calendar year. Contractors who perform work without the assistance or labor of any employee need not obtain such coverage. This shall include Employer's Liability Insurance with coverage limits of not less than $500,000 each accident.

D. Additional Insured Provision

The Commercial General Liability Insurance and Commercial Automobile Insurance policies and other policies the City deems necessary shall include the City as an additional insured with respect to this Agreement.

E. Notice of Cancellation

There shall be no cancellation, material change, exhaustion of aggregate limits or intent not to renew insurance coverage of Contractor's insurance without 30 days prior written notice to the City. Any failure to comply with this provision will not affect the insurance coverage provided to the City. The certificates of insurance provided to the City shall state that the insurer shall provide 30 days prior notice of cancellation to the City.

F. Certificates of Insurance

As evidence of the insurance coverage required by the Agreement, the Contractor shall furnish a Certificate of Insurance to the City. This Agreement shall not be effective until

the required certificates have been received and approved by the City. The certificate will specify and document all provisions within this Agreement. A renewal certificate will be sent to the City 10 days prior to coverage expiration.

G. Primary Coverage Clarification

The parties agree that Contractor's coverage shall be primary to the extent permitted by law. The parties further agree that other insurance maintained by the City is excess and not contributory insurance with the insurance required in this section.

H. Cross-Liability Clause

A cross-liability clause or separation of insureds clause will be included in all general liability, professional liability, pollution and errors and omissions policies required by this Agreement.

The procuring of required insurance shall not be construed to limit Contractor's liability under this Agreement.

6. METHOD & PLACE OF SUBMITTING NOTICE, BILLS AND PAYMENTS

Unless otherwise set forth herein, payment to Contractor shall be made by City within thirty (30) days of receipt of an approved invoice. An approved invoice is an invoice that has been signed by an authorized City individual. Payment may be withheld in the event the Services performed or an invoice submitted is disputed by the City. All notices, bills and payments shall be made in writing and may be given by personal delivery mail. Payments may be made by personal delivery, mail, or electronic transfer. The following addresses shall be used to transmit notices and other information:

City:	City of Newport	**Contractor:**_____
	169 SW Coast Highway	_____
	Newport, Oregon 97365	_____
Business Phone:	541-574-3377	_____

Notices mailed to the address provided for notice in this section shall be deemed given upon deposit in the United States mail, postage prepaid. In all other instances, notices, bills and payments shall be deemed given at the time of actual delivery.

7. TERMINATION WITHOUT CAUSE

At any time and without cause, City shall have the right in its sole discretion, to terminate this Agreement by giving notice to Contractor. If City terminates the Agreement pursuant to this Section due to no fault of Contractor, City shall pay Contractor for all approved and undisputed services rendered up to the date of termination.

8. TERMINATION WITH CAUSE

A. City may modify or terminate this Agreement effective upon delivery of written notice to Contractor, or at such later date as may be established by City, under any of the following conditions:

1. If City funding from federal, state, local, or other sources is not obtained and continued at levels sufficient to allow for the purchase of the indicated quantity of services.
2. If federal or state regulations or guidelines are modified, changed, or interpreted in such a way that the Services are no longer allowable or appropriate under this Agreement.
3. If any license or certificate required by law or regulation to be held by Contractor, its subcontractors, agents, and employees to provide the Services required by this Agreement is for any reason denied, revoked, or not renewed.
4. If Contractor becomes insolvent, if voluntary or involuntary petition in bankruptcy is filed by or against Contractor, if a receiver or trustee is appointed for Contractor, or if there is an assignment for the benefit of creditors of Contractor.

Any such termination of this Agreement under subsection A will be without prejudice to any obligations or liabilities of either party already accrued prior to such termination.

B. City, by written notice to Contractor, may terminate the whole or any part of this Agreement:

1. If Contractor fails to provide Services as set forth in this Agreement within the time specified herein or any extension thereof, or
2. If Contractor fails to perform any provisions of this Agreement, or fails to pursue the work of this Agreement in accordance with its terms, and after receipt of written notice from City, fails to correct such failures within ten (10) days or such other period as City may authorize.

The rights and remedies of City provided in this Section are not exclusive and are in addition to any other rights and remedies provided by law or under this Agreement. If City terminates this Agreement under Section, Contractor shall be entitled to receive as full payment for all Services actually satisfactorily rendered and expenses incurred, provided however, that there shall be deducted from such amount the amount of damages, if any, sustained by City due to breach of this Agreement by Contractor.

9. ACCESS TO RECORDS

For a period of not less than three years after City's final payment to Contractor, Contractor shall permit the City, the State of Oregon and the Federal Government (if State or Federal funding is involved) to have access to all books, documents, papers and records of Contractor which are pertinent to the Services provided hereunder for purposes of audit, examination, excerpts and transcripts. Contractor shall retain those records for at least three years, or until litigation is resolved if litigation is instituted.

10. FORCE MAJEURE

Neither City nor Contractor shall be considered in default because of any delays in completion and responsibilities due to causes beyond the control and without fault or negligence on the part of the parties so disenabled, including but not restricted to, an act of nature or of a public enemy, civil unrest, earthquake, fire, flood, epidemic, quarantine restriction, strike, freight embargo, unusually severe weather; provided that the parties so disenabled shall notify the other party in writing of the cause of delay. Each party shall make reasonable efforts to remove or eliminate the cause of delay or default and shall, upon cessation of the cause, diligently

pursue performance of its obligations under the Agreement.

11. NON-DISCRIMINATION

Contractor agrees to comply with all applicable requirements of federal and state civil rights and rehabilitation statues, rules, and regulations. Contractor also shall comply with the Americans with Disabilities Act of 1990, ORS 659.425, and all regulations and administrative rules established pursuant to those laws.

12. ERRORS

Contractor will perform additional work as may be necessary to correct errors in Services performed under this Agreement without undue delay and without additional cost.

13. GOVERNING LAW

The provisions of this Agreement shall be construed in accordance with the laws of the State of Oregon. Any action or suits involving any question arising under this Agreement will be brought in the appropriate court of the State of Oregon. In any action arising under this Agreement, the losing party shall pay such sum as the court may adjudge including reasonable attorney fees and court costs.

14. ARBITRATION.

If any disputes, disagreements, or controversies arise between the parties pertaining to the interpretation, validity, or enforcement of this Agreement, the parties shall, upon the request of either party, submit such dispute to binding arbitration. Except as otherwise provided in this Agreement, arbitration shall be requested by delivering to the other party a written request for arbitration. Within five (5) days of receipt of such request, the parties shall select a mutually agreeable arbitrator and designate mutually agreeable rules of arbitration. If the parties cannot agree upon an arbitrator within five (5) days, an arbitrator may be appointed by the Lincoln County Circuit Court, upon the request of either party submitted in accordance with ORS 36.310. If the parties have not designated mutually agreeable rules of arbitration at such time as the arbitrator is appointed, the arbitrator shall adopt rules for the arbitration. The arbitrator's decision shall be binding upon the parties.

The City and Consultant agree to a consolidated arbitration of such claims, disputes, and other matters in question between themselves regarding the project, with claims, disputes, and other matters in question regarding the project between and among the City, Consultant and the City's third party designees and contractors and anyone else under contract with the City or any other party to perform work or services related to the project.

Notwithstanding any dispute under this Agreement, whether before or during arbitration, the Consultant shall continue to perform its work pending resolution of a dispute, and the City shall make payments as required by the Agreement for undisputed portions of work.

15. ATTORNEY FEES.

If either party commences any arbitration, suit, or proceeding against the other to rescind, interpret or enforce the terms of this contract, the parties agree that the prevailing party shall be

awarded reasonable attorney's fees and costs incurred in any such arbitration, action, suit or proceeding and in any later appeals filed as a consequence thereof. Such costs shall bear interest at the maximum legal rate from the date incurred, until the date paid by losing party.

16. COMPLIANCE WITH LAWS AND RULES

Contractor shall comply with all applicable federal, state and local laws, rules and regulations, including, but not limited to, requirements concerning working hours, overtime, medical care, workers compensation insurance, health care payments, payments to employees and subcontractors and income tax withholding, including, without limitation, applicable provisions of the Oregon Public Contract Code including ORS 279B.020, 279B.220, 279B.230, and 279B.235, as more particularly set forth on Exhibit B, attached hereto and incorporated herein by this reference.

17. CITY OWNERSHIP

All Contractor's work product accomplished under this Agreement, whether in the form of designs, drawings, as-builts, diagrams, specifications, reports, or other writings, shall become the exclusive property of the City. The City is the owner of any copyrights thereto, upon City's final payment to Contractor.

18. AGREEMENT

A. This writing is intended both as a final expression of the Agreement between the parties with respect to the included terms and as a complete and exclusive statement of the terms of the Agreement. This Agreement incorporates the City's Request for Proposal/Solicitation of Bids document and Contractor's Response/Bid. In the event of a conflict between the terms of this Agreement and any incorporated document, unless otherwise specifically stated, this Agreement will control.

B. No modification of this Agreement shall be effective unless and until it is made in writing and signed by both parties. Payment shall not be made for any Services not set forth in Exhibit B without the written agreement with the City. In the event Contractor and City agree to any modification in the Services set forth in Exhibit B, the parties will execute an amendment to this Agreement, reflecting such modification.

C. Neither party shall assign or transfer any interest in or duty under this Agreement without the written consent of the other party. Notwithstanding City approval of a subcontractor or assignee, the Consultant shall remain obligated for full performance hereunder, and the City shall incur no obligation other than its obligations to the Contract hereunder.

D. This Agreement and all exhibits and addenda hereto are complementary and what is required in one shall be binding as if required by all. If there is a conflict between terms of the documents, the more specific requirement shall govern over the more general. No term of this Agreement is intended to waive or supersede a legally mandated term of this Agreement under ORS Chapter 279, 279A, 279B, and 279C, and Administrative Rules promulgated to implement those ORS Chapters.

E. The failure of City to insist upon or enforce strict performance by Contractor of any of the terms of this Agreement or to exercise any rights hereunder should not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights on any future occasion.

By authorized signature hereunder, each party sets their hand to this Agreement:

CITY OF NEWPORT:

_____ _____

By: Spencer Nebel, City Manager Date

CONTRACTOR:

_____ _____

By: Date

EXHIBIT A

ORS CHAPTER 279B PUBLIC CONTRACTING REQUIREMENTS FOR THE PURCHASE OF GOODS AND SERVICES

(1) Contractor shall pay promptly, as due, all persons supplying labor or materials for the prosecution of the work provided for in the contract, and shall be responsible for such payment of all persons supplying such labor or material to any Subcontractor. ORS 279B.220(1).

(2) Contractor shall promptly pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the contract. ORS 279B.220(2).

(3) Contractor shall not permit any lien or claim to be filed or prosecuted against the Contracting Agency on account of any labor or material furnished and agrees to assume responsibility for satisfaction of any such lien so filed or prosecuted. ORS 279B.220(3).

(4) Contractor and any Subcontractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.617. ORS 279B.220(4).

(5) Contractor agrees that if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or materials furnished to the Contractor or a Subcontractor by any person in connection with the contract as such claim becomes due, the City may pay such claim to the persons furnishing the labor or material and charge the amount of payment against funds due or to become due Contractor by reason of the contract. The payment of a claim in the manner authorized hereby shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claim. If the City is unable to determine the validity of any claim for labor or material furnished, the City may withhold from any current payment due Contractor an amount equal to said claim until its validity is determined and the claim, if valid, is paid.

(6) Contractor shall promptly, as due, make payment to any person, copartnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service. ORS 279B.230(1).

(7) All subject employers working under the Contractor are either employers that will comply with ORS 656.017, or employers that are exempt under ORS 656.126. ORS 279B.230(2).

(8) Contractor shall pay employees for overtime work performed under the contract in accordance with ORS 653.010 to 653.261 and the Fair Labor Standards Act of 1938 (29 USC 201, et seq). ORS 279B.235(3).

(9) The Contractor must give notice to employees who work on this contract in writing, either at the time of hire or before commencement of work on the contract, or by posting a

notice in a location frequented by employees, of the number of hours per day and the days per week that the employees may be required to work. ORS 279B.235(2).

(10) All sums due the State Unemployment Compensation Fund from the Contractor or any Subcontractor in connection with the performance of the contract shall be promptly so paid. ORS 701.430.

(11) The contract may be canceled at the election of City for any willful failure on the part of Contractor to faithfully perform the contract according to its terms.

(12) Contractor certifies compliance with all applicable Oregon tax laws, in accordance with ORS 305.385.

(13) Contractor certifies that it has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontractors. ORS 279A.110.

(14) As used in this section, "nonresident contractor" means a contractor that has not paid unemployment taxes or income taxes in the state of Oregon during the 12 calendar months immediately preceding submission of the bid for the contract, does not have a business address in this state, and stated in the bid for the contract that it was not a "resident bidder" under ORS 279A.120. When a public contract is awarded to a nonresident contractor and the contract price exceeds $10,000, the contractor shall promptly report to the Department of Revenue on forms to be provided by the department the total contract price, terms of payment, length of contract and such other information as the department may require before the bidder may receive final payment on the public contract. ORS 279A.120.

EXHIBIT B
RATES/COSTS

EXHIBIT C
Request For Proposal

U.S. Department
of Transportation

Federal Aviation Administration

Advisory Circular

Subject: PROTOCOL FOR THE CONDUCT AND REVIEW OF WILDLIFE HAZARD SITE VISITS, WILDLIFE HAZARD ASSESSMENTS, AND WILDLIFE HAZARD MANAGEMENT PLANS	**Date:** DRAFT **Initiated by:** AAS-300	**AC No:** 150/5200-XX **Change:**

1. Purpose.

This Advisory Circular (AC) defines the minimum acceptable standards for the conduct and preparation of Wildlife Hazard Site Visits (Site Visit), Wildlife Hazard Assessments (Assessments) and Wildlife Hazard Management Plans (Plans). This AC provides guidelines that define when a Site Visit should be conducted and when an Assessment must be conducted. It also defines minimum standards for conducting Site Visits and Assessments, as well as developing Plans. The AC further defines and explains continual monitoring programs. This AC also provides checklists to help people evaluate Site Visits, Assessments and Plans.

2. Applicability.

Airports that hold Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D, must use the standards, practices and recommendations contained in this AC to comply with the wildlife hazard management requirements in 14 C.F.R. §139.337. All other airports that have received Federal assistance and/or that have authority to impose and/or use a Passenger Facility Charge must use the standards practices and recommendations contained in this AC during the conduct and preparation of Site Visits, Assessments and Plans. The FAA also recommends the guidance in this AC for Qualified Airport Wildlife Biologists (Biologist), land-use planners and developers of projects, facilities, and activities on or near airports.

3. Background.

Title 14 Code of Federal Regulations, part 139.337, *Wildlife Hazard Management,* prescribes the specific reasons why an Assessment must be conducted and what subject matter is minimally required. Minimal standards have been unclear or absent for preferred methodologies that assess wildlife populations and wildlife hazard attractants. These disparities have resulted in non-standardized, wide ranging methodologies to obtain wildlife and habitat data.

An Assessment, defined as an ecological study in part 139.337 (a), conducted by a Biologist, provides the scientific basis for the development, implementation, and refinement of a Plan. Though parts of the Assessment may be incorporated directly in the Plan, they are two separate documents. Part of the Plan can be prepared by the Biologist who conducts the Assessment. However, some parts can be prepared only by the airport. For example, airport management assigns airport personnel responsibilities, commits airport funds, and purchases equipment and supplies. Site Visits also must be conducted by a Qualified Airport Wildlife Biologist. The intent of a Site Visit is to provide an abbreviated analysis of an airport's wildlife hazards, determine if an Assessment is warranted, and if necessary, provide actionable information that allows the airport to expedite the mitigation of these hazards.

Information about the risks posed to aircraft by certain wildlife species has increased in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a threat to aircraft safety, they are not equally hazardous. Table 1 ranks the most hazardous bird and mammal species or groups as to relative hazard to aircraft in airport environments (i.e., ≤500 ft [152 m] above ground level), based on a composite ranking of strikes with civil aircraft in the USA 1990-2009.

These hazard rankings can help focus hazardous wildlife management efforts on those species or groups that represent the greatest threats to safe air operations in the airport environment. Used in conjunction with a site-specific Assessment that will determine the relative abundance and use patterns of wildlife species, these rankings can help airport operators better understand the general threat level (and consequences) of certain wildlife species and can assist with the creation of a "zero-tolerance" list of hazardous species that warrant immediate attention.

Table 1. Ranking of 77 bird and mammal species or groups (1 = most hazardous) as to relative hazard to aircraft in airport environments (i.e., ≤500 ft [152 m] above ground level), based on a composite rank. The composite rank reflects 3 variables: the percentage of total strikes (for that species–group) that caused any level of damage to the aircraft, the percentage of total strikes that caused substantial damage to the aircraft, and the percentage of total strikes that caused an effect on flight (EOF). Strike data are from the Federal Aviation Administration National Wildlife Strike Database, for strikes that occurred in the United States from 1990 to 2009[1].

Species[2]	Total strikes reported	% with damage	% with substantial damage	% with EOF	Damage rank	Substantial damage rank	EOF rank	Composite rank	Relative hazard score
Mule deer (*Odocoileus hemionus*)	47	96	38	83	1	1	1	1	100
White-tailed deer (*Odocoileus virginianus*)	814	87	36	68	2	2	3	2	88
Domestic dog	21	53	26	75	4	4	2	3	71
Other geese	20	68	32	32	3	3	8	4	61
Canada goose (*Branta canadensis*)	776	51	16	34	7	9	7	5	46
Turkey vulture (*Cathartes aura*)	159	46	16	34	10	7	6	5	44
Other ducks	77	49	24	30	8	5	11	7	48
Great horned owl (*Bubo virginianus*)	29	52	16	27	6	8	17	8	44
Double-crested cormorant (*Phalacrocorax auritis*)	24	52	13	29	5	13	13	8	43
Brown pelican (*Pelecanus occidentalis*)	31	35	13	38	14	14	5	10	40
Wild turkey (*Meleagris gallopavo*)	38	37	6	43	13	28	4	11	40
Sandhill crane (*Grus canadensis*)	66	43	10	28	11	19	15	11	37
Glaucous-winged gull (*Larus glaucescens*)	27	48	9	28	9	21	16	13	39
Bald eagle (*Haliaeetus leucocephalus*)	74	40	7	30	12	25	10	14	36
Great black-backed gull (*Larus marinus*)	20	26	21	22	18	6	23	14	32
Osprey (*Pandion haliaetus*)	77	32	12	26	16	15	19	16	32
Great blue heron (*Ardea herodius*)	132	32	8	28	15	23	14	17	31
Ring-necked pheasant (*Phasianus colchicus*)	45	26	14	22	20	10	26	18	29
Herring gull (*Larus argentatus*)	291	25	13	24	23	12	21	18	29
Snowy owl (*Bubo scandiacus*)	28	23	12	26	24	17	20	20	28
Mallard (*Anas platyrhynchos*)	221	31	11	21	17	18	28	21	29
Great egret (*Ardea alba*)	24	26	4	29	21	32	12	22	28
Red-tailed hawk (*Buteo jamaicensis*)	534	26	8	21	19	24	27	23	25
California gull (*Larus californicus*)	23	14	14	20	33	11	30	24	22
Cattle egret (*Bubulcus ibis*)	112	17	6	27	32	27	18	25	23
Ring-billed gull (*Larus delawarensis*)	362	21	8	20	26	22	33	26	23
Franklin's gull (*Larus pipixcan*)	26	9	9	23	41	20	22	27	19
Raccoon (*Procyon lotor*)	23	18	12	14	28	16	40	28	20
Species[2]	**Total strikes reported**	**% with damage**	**% with substantial damage**	**% with EOF**	**Damage rank**	**Substantial damage rank**	**EOF rank**	**Composite rank**	**Relative hazard score**

Species[2]	Total strikes reported	% with damage	% with substantial damage	% with EOF	Damage rank	Substantial damage rank	EOF rank	Composite rank	Relative hazard score
Coyote (*Canis latrans*)	231	14	3	31	36	41	9	29	22
Rock dove (*Columba livia*)	1,035	18	6	19	29	26	34	30	20
Swainson's hawk (*Buteo swainsoni*)	24	17	4	20	31	33	31	31	19
Other hawks	34	14	4	22	34	37	25	32	18
Laughing gull (*Larus atricilla*)	106	14	4	21	35	34	29	33	18
Mew gull (*Larus canus*)	21	25	0	16	22	52	37	34	19
Peregrine falcon (*Falco peregrinus*)	44	18	5	7	30	29	53	35	14
Laysan albatross (*Phoebastria immutabilis*)	29	22	0	17	25	53	35	36	18
Rabbits (Leporidae)	78	11	3	15	37	39	39	37	13
Upland sandpiper (*Bartramia longicauda*)	32	8	4	16	43	36	36	37	13
Short-eared owl (*Asio flammeus*)	58	10	4	11	39	35	43	39	12
Black-bellied plover (*Pluvialis squatarola*)	20	18	0	16	27	54	38	40	15
Red fox (*Vulpes vulpes*)	31	8	0	22	42	55	24	41	14
American crow (*Corvus brachyrhynchos*)	141	10	3	13	40	40	41	41	12
Spotted dove (*Streptopelia chinensis*)	46	7	4	10	48	31	45	43	10
Barn owl (*Tyto alba*)	174	11	3	9	38	38	49	44	11
Mourning dove (*Zenaida macroura*)	1,313	7	3	13	45	42	42	45	10
Blackbirds	976	7	2	10	44	46	44	46	9
European starling (*Sturnus vulgaris*)	1,408	7	2	10	47	43	46	47	9
Bats (Chiroptera)	44	5	5	8	55	30	51	47	8
Killdeer (*Charadrius vociferus*)	553	6	1	7	51	48	52	49	7
American kestrel (*Falco sparverius*)	536	4	1	7	57	47	55	50	6
Zebra dove (*Geopelia striata*)	54	4	2	6	56	44	59	50	5
Snow bunting (*Plectrophenax nivalis*)	84	1	0	20	66	66	32	52	10
Common myna (*Acridotheres tristis*)	21	6	0	6	50	58	56	52	6
Bank swallow (*Riparia riparia*)	49	5	0	9	54	61	50	54	6
Meadowlarks	361	3	2	6	61	45	60	55	5
Woodchuck (*Marmota monax*)	41	7	0	3	46	56	68	56	5
Horned lark (*Eremophila alpestris*)	372	3	1	6	60	49	61	56	4
Sparrows	1,799	3	0	6	62	51	58	58	4
Northern harrier (*Circus cyaneus*)	24	5	0	5	52	59	62	59	5
American robin (*Turdus migratorius*)	159	2	0	10	64	65	47	60	5
Burrowing owl (*Athene cunicularia*)	20	6	0	0	49	57	73	61	3
Barn swallow (*Hirundo rustica*)	486	2	0	3	65	50	69	62	2
Wrens	28	4	0	4	58	62	66	63	3
Terns	45	5	0	0	53	60	74	64	2
Finches	55	0	0	10	71	71	48	65	4

Chimney swift (*Chaetura pelagica*)	34	0	0	6	70	70	57	66	3
Common nighthawk (*Chordeiles minor*)	38	3	0	0	59	63	75	66	1
Pacific golden-plover (*Pluvialis apricaria*)	204	1	0	4	67	67	64	68	2
Purple martin (*Progne subis*)	57	2	0	2	63	64	72	69	2
Western sandpiper (*Calidris mauri*)	31	0	0	7	76	76	54	70	3
Cliff swallow (*Petrochelidon pyrrhonota*)	164	1	0	2	68	68	71	71	1
Skunks (Mephitidae)	30	0	0	4	74	74	63	72	2
Nutmeg mannikin (*Lonchura punctulata*)	26	0	0	4	72	72	67	72	2
Chestnut manikin (*Lonchura malacca*)	28	0	0	0	69	69	76	74	0
Wood warblers	30	0	0	4	77	77	65	75	2
Tree swallow (*Tachycineta bicolor*)	109	0	0	2	75	75	70	76	1
Opossum (*Didelphis virginiana*)	25	0	0	0	73	73	77	77	0

[1] Excerpted from the Wildlife Society Bulletin 35(4):394–402; 2011; *"Interspecific Variation in Wildlife Hazards to Aircraft: Implications for Airport Wildlife Management."* Refer to this publication for additional explanation of criteria and method of ranking and Wildlife Society Bulletin 28:372–378 *"Ranking the Hazard Level of Wildlife Species to Aviation"* for detailed definitions of damage and EOF.

[2] Other geese = snow goose (*Chen caerulescens*), brant (*Branta bernicla*), greater white-fronted goose (*Anser albifrons*); other ducks = 23 species in the family Anatidae; other hawks = Cooper's hawk (*Accipter cooperii*), sharp-shinned hawk (*A. striatus*), rough-legged hawk (*Buteo lagopus*), red-shouldered hawk (*B. lineatus*), broad-winged hawk (*B. platypterus*), ferruginous hawk (*B. regalis*); blackbirds = red-winged blackbird (*Agelaius phoeniceus*), brown-headed cowbird (*Molothrus ater*), common grackle (*Quiscalus quiscula*); meadowlarks = eastern meadowlark (*Stumella magna*), western meadowlark (*S. neglecta*); sparrows = 19 species in the family Emberizidae; wrens = house wren (*Troglodytes aedon*), Carolina wren (*Thryothorus ludovicianus*), marsh wren (*Cistothorus palustris*); terns = common tern (*Sterna hirundo*), arctic tern (*S. vittata*), Caspian tern (*S. caspia*), least tern (*S. antillarum*), fairy tern (*S. nereis*); finches = house finch (*Carpodacus mexicanus*), American goldfinch (*Carduelis tristis*); wood warblers = 13 species in the family Parulidae.

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SECTION 1.

PROTOCOL FOR THE CONDUCT OF A WILDLIFE HAZARD SITE VISIT (SITE VISIT)

1.1. INTRODUCTION. A Site Visit has three parts: Gathering airport information, field observations, and a final report with recommendations. Airports use a Site Visit to quickly evaluate and mitigate potential hazards on airports. An airport can also use a Site Visit to determine whether an Assessment is necessary. If an airport already has a Plan, airport management can use a Site Visit to investigate wildlife strikes to aircraft or to see if the Plan needs to be updated.

During the Site Visit, the Biologist collects and compiles information on the airport's wildlife hazard history, documented and suspected wildlife hazards, habitat attractants, control activities, airport operations procedures, communications of hazards through ATC and pilots, aircraft operations and scheduling. A Site Visit is typically conducted over a period of one to three days during which a Biologist evaluates the habitat on and surrounding the airport and records direct or indirect wildlife observations; and reviews the current Plan, current wildlife management activities and airport wildlife strike data.

A Qualified Airport Wildlife Biologist must conduct Site Visits. Standards for becoming a Qualified Airport Wildlife Biologist are found in AC 150/5200-36A, *Qualifications for Wildlife Qualified Airport Wildlife Biologists Conducting Wildlife Hazard Assessments and Training Curriculum for Airport Personnel Involved in Controlling Wildlife Hazards on Airports.*

1.2. APPLICABLE AIRPORT INFORMATION. The airport operator shall provide the Biologist the following information, if available:

a. Personnel and departments responsible for airport operations

b. Number of aircraft movements per year

c. Type of movements (i.e., % private, civil, and military)

d. Recent airport improvements or upgrades

e. Past and present land management practices

f. Records of strikes and damage, flight delays, injuries, and fatalities due to strikes. Wildlife strike data may help determine hazardous species on an airport. Data on reported wildlife strikes are available through the FAA National Wildlife Strike Database (available at http://faa.gov/go/wildlife). Airports may maintain their own local database which can be compared with the National Database. A Site Visit should include an analysis of wildlife strike records. If possible, include summaries of strike data by species, time of day, on and off-site airport locations, and weather conditions. A minimum wildlife strike analysis should include, if available:

(1) Bird and mammal species involved

(2) Frequency distribution by month and year

(3) Number per 10,000 aircraft movements

(4) Location on the airfield

g. Previous wildlife hazard management efforts – Records of past management may be helpful during this initial consultation. Attempts to exclude, deter, or remove wildlife from the airport should be noted. If not already in place, a wildlife log should be created and maintained by airport operations to document all wildlife activity observed on the airport.

h. Description of current wildlife hazard threats or concerns

i. Any current Federal and State depredation/ wildlife control permits and annual permit reports

j. Current U.S. Geological Survey (USGS) topographic maps, airport maps, and/ or aerial photographs

k. Other pertinent information present in airport records

Airport records may be incomplete or may not exist. Interviews with airport personnel often yield useful information that is missing from written records. The history of wildlife hazard problems at the airport should be discussed with the airport manager and staff. The control tower supervisor and chief of operations may also provide useful background information on the severity and frequency of the problem.

1.3. OBSERVATIONS. Qualified Airport Wildlife Biologists should make observations from a variety of locations to ensure complete visual coverage of the airport. Minimum coverage shall include observations of the airport's Airport Operations Area (AOA). These observations should be brief and are not as rigorous as a full Assessment. At a minimum, the observations should include:

a. *Birds* – Record bird species present and note abundance, activity, location, type of habitat used, time and date of observations. Note evidence of bird activity such as fecal material and regurgitated pellets (boluses) under structures used for perching.

b. *Mammals* – Document mammals observed and evidence of mammal activity such as scats, tracks, runs, and burrows and include time and date of observations, activity, location, and type of habitat used. Estimate relative abundance, activity, and habitat use.

c. *Habitat Attractants* – Assess habitats and man-made attractants on and around airport property. Note potential wildlife attractants. Review maps and aerial photographs, noting waste management facilities, wildlife refuges, water bodies, agriculture, stock yards, picnic areas, restaurants, and other features or habitats that may attract wildlife within a five mile radius around the airport.

d. *Wildlife/Habitat Relationship* – Observe and record how the wildlife observed is using the habitat on the airport.

e. *Wildlife Interactions with Aircraft Operations* – Assess the potential for wildlife interactions with aircraft operations in the AOA, traffic patterns, approach and departure airspace, and surrounding areas. Evaluate aircraft movements to see if these operations increase the risk of wildlife strikes. Review airport hazard advisories to see if they are specific to the hazards at the airport.

1.4. SITE VISIT REPORT. The Qualified Airport Wildlife Biologist must provide the airport manager with a letter report summarizing field data and any management recommendations following the Site Visit. The FAA Regional office should receive a copy of this report from the Airport Manager. The FAA will review the site visit report and determine if a full Wildlife Hazard Assessment is required. Copies of the report should be filed and made a part of the historical record for the airport. The Site Visit report should contain:

a. List of wildlife species (or wildlife sign- e.g., deer tracks) observed during the visit, with a statement that the list is not a complete record of species using the airport

b. Federal and State status of the species observed

c. Habitat features that may encourage wildlife to use the airport

d. Natural and man-made wildlife attractants on or near the airport

e. Strike data analysis

f. Recommendations to:

(1) Reduce wildlife hazards identified (if data is available to substantiate your conclusions)[1]

(2) Conduct an Assessment, if warranted

(3) Modify an existing Plan, if warranted

(4) Improve communications and hazard advisories between Air Traffic Control, pilots, airlines, airport operations, and other airport users

(5) Provide for potential alteration of aircraft operations including locations and scheduling of flights to avoid identified hazardous wildlife concentrations

(6) No action required, if applicable

[1] Reduce wildlife hazards through the use of habitat management, exclusion/repulsion techniques, active harassment, population control, and operational considerations.

SECTION 2.

PROTOCOL FOR THE CONDUCT OF A WILDLIFE HAZARD ASSESSMENT (ASSESSMENT)

2.1. INTRODUCTION. The first step in preparing an airport Plan is to conduct an Assessment. The Assessment, conducted by a Qualified Airport Wildlife Biologist, provides the scientific basis for the development, implementation, and refinement of a Plan. Though parts of the Assessment may be incorporated directly into the Plan, they are two separate documents.

The objective of an Assessment is to provide a baseline of data and understanding of wildlife species considered hazardous on or near an airport and of attractants that provide food, water, and shelter. The Assessment also identifies wildlife trends at the airport (location of wildlife hazards and seasonality of wildlife) and how these fluctuations in behavior and abundance may affect aviation safety, with particular emphasis to wildlife strikes to aircraft. It promotes the use of an integrated approach for wildlife mitigation to effectively modify the environment (e.g., mowing and drainage clearance), exclude wildlife (e.g., install fences and perch excluders), implement harassment procedures (e.g., pyrotechnics and propane cannons), remove wildlife (e.g., lethal and capture/relocate methodologies), communicate wildlife hazard advisories (e.g., through Air Traffic Control voice communications, ATIS, PIREPS, NOTAMS), direct pilot responses to identified hazards, report strikes or hazardous situations, and potentially alter flight routes, traffic patterns, or schedules to avoid locations and times of identified wildlife hazards.

The Assessment provides baseline data for an airport to evaluate the efficacy of its wildlife hazard management program (e.g., determine redundancy of species-specific wildlife hazards, monitor reduction of onsite damaging strikes, monitor wildlife program communication and response efficiency, and improve the overall wildlife program through annual review). Better information regarding wildlife hazards and their attractants should result in better use of resources.

2.2. REQUIREMENTS FOR WILDLIFE HAZARD ASSESSMENTS. Title 14 CFR 139.337(b)(1–4) requires that, in a manner authorized by the Administrator, each certificate holder must ensure that an Assessment is conducted when any of the following events occurs on or near the airport:

a. An air carrier aircraft experiences multiple wildlife strikes

b. An air carrier aircraft experiences substantial damage from striking wildlife

c. An air carrier aircraft experiences an engine ingestion of wildlife

d. Wildlife of a size, or in numbers, capable of causing an event described in paragraph (b)(1), (2), or (3) of this section is observed to have access to any airport flight pattern or aircraft movement area.

The following provides a point-by-point comment on the regulations concerning the events that trigger a Wildlife Hazard Assessment.

14 CFR 139.337	Clarifications
(b) In a manner authorized by the Administrator, each certificate holder shall ensure that a Wildlife Hazard Assessment is conducted when any of the following events occurs on or near the airport.	A wildlife hazard assessment, conducted by a Qualified Airport Wildlife Biologist, must be conducted if—
(b) (1) An air carrier aircraft experiences a multiple wildlife strike	Aircraft strikes more than one animal (geese, starlings, bats, deer, coyotes, etc.).
(b) (2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component	The definition of substantial damage is taken directly from the International Civil Aviation Organization (ICAO) *Manual on the International Civil Aeronautics Organization Bird Strike Information System.*
(b) (3) An air carrier aircraft experiences an engine ingestion of wildlife; or	Wildlife is ingested into a turboprop, turbofan, or turbojet engine. Engine damage does not have to result from the ingestion.
(b) (4) Wildlife of a size, or in numbers, capable of causing an event described in paragraph (b)(1), (2), or (3) of this section is observed to have access to any airport flight pattern or aircraft movement area.	Airports with a standing Notice to Airmen (NOTAM), announcements on their Automatic Terminal Information Service (ATIS), or comments in Airport/Facility Directory (A/FD) warning pilots of wildlife hazards on or near the airport meet this condition. Permanent or blanket generic advisories should not be issued without actionable mitigation measures provided.

2.3. NECESSARY ELEMENTS OF A WILDLIFE HAZARD ASSESSMENT. Title 14 CFR 139.337 (c)(1–5) provides specific guidance as to what facts must be addressed in a Wildlife Hazard Assessment. The following is a point-by-point comment on each section of the regulations concerning the factors to be addressed in a Wildlife Hazard Assessment.

14 CFR 139.337	Clarifications
(c) The Wildlife Hazard Assessment ... shall be conducted by Qualified Airport Wildlife Biologist... having training or experience in wildlife hazard management at airports ... or working under the direct supervision ...	The Assessment is to be conducted by someone having met the requirements defined in the most recent version of AC 150/ 5200-36 "*Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports*"
(c) cont. ... the Wildlife Hazard Assessment shall contain:	
(c) (1) Analysis of the event or circumstances that prompted the assessment.	Who, what, when, where, why of the situation prompting the Assessment.
(c) (2) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.	What wildlife species have access to the airport? What are their legal status, movement patterns, and seasonal patterns?
(c) (3) Identification and location of features on and near the airport that attract wildlife.	Wildlife are attracted to an airport because something exists on or near the airport that they desire. Wood lots near the AOA and large open areas provide relatively safe loafing, nesting and feeding locations. Food and water sources can be highly variable (dependent on hazardous species), seasonal or ephemeral. These attractants and others, such as easily accessible travel corridors, should be analyzed.
(c) (4) A description of wildlife hazards to air carrier operations.	This is a judgment call best made by the Qualified Airport Wildlife Biologist trained in dealing with airport issues. Hitting 3-4 swallows is much less hazardous than hitting one 12-pound Canada goose.
(c) (5) Recommended actions for reducing identified wildlife hazards to air carrier operations.	The Qualified Airport Wildlife Biologist preparing the Assessment must provide prioritized recommendations for mitigating the hazardous wildlife and their attractants as well as recommendations for Operations (e.g., ATC, air carriers, pilots, etc.)

2.4. NECESSARY ELEMENTS OF A WILDLIFE HAZARD ASSESSMENT REPORT. Elements within 14 CFR 139.337 (c) (1-5) must be discussed in the final Assessment report. If there was no event or circumstance that prompted the Assessment then 14 CFR 139.337 (c) (1) may be omitted. Although there are many acceptable formats to present the findings of an Assessment, there are certain key components that must be provided. The required components include sections summarizing methodologies, results and recommendations (if there are any).

Assessment techniques such as point counts, trapping indices, vehicle routes, and avian radar should be conducted and locations described that allows future duplication for consistent, continued monitoring or comparison to previous findings. Maps, imagery and/or detailed descriptions should be incorporated whenever location information is necessary (e.g., Assessment techniques, wildlife hazard attractants, airport layout).

Wildlife strike data should be evaluated regardless of an event or circumstance that may have prompted the Assessment. The National Wildlife Strike Database (http://faa.gov/go/wildlife) is available to the public and is the primary repository for wildlife strikes to civil aircraft in the U.S., although strike records may be available from other sources such as the airport, airlines and engine manufacturers. When available, key strike data such as species, number struck, phase of flight, altitude, time of day, time of year, and damage (if any) should be summarized in the Assessment.

Recommended actions for reducing identified wildlife hazards may include detailed, task specific objectives or general measures. Attention should be given both to proactive mitigation such as habitat modification and exclusion techniques and reactive measures that involve harassment, dispersal and removal procedures. When applicable, airports should be strongly encouraged to maintain Federal and State depredation permits.

2.5. MINIMUM NUMBER OF WILDLIFE SURVEYS REQUIRED AND DURATION OF WILDLIFE HAZARD ASSESSMENT. In conducting a Wildlife Hazard Assessment 14 CFR Part 139.337 (c)(2) requires the *"identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences."* In most cases, this requirement dictates that a 12-month Assessment be conducted so the seasonal patterns of birds and other wildlife using the airport and surrounding area during an annual cycle can be properly documented. Most regions of the USA have dramatic seasonal differences in numbers and species of migratory birds. Even for non-migratory wildlife, such as deer and resident Canada geese, behavior and movement patterns can change significantly throughout the seasons. Observations of wildlife at an airport and surrounding areas limited to a few days in a single season generally cannot adequately assess hazardous wildlife issues and associated habitat attractants.

In order to adequately identify wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences, the Biologist may choose from several objective procedures that will adequately assess avian and mammalian species. These standardized survey procedures will insure that quality, representative data can

be consistently collected for hazardous wildlife species in the airport environment and that these procedures can be repeated in future years for comparative purposes.

Various wildlife species are active throughout all hours of the day and night. Inventory and monitoring techniques should account for these movement dynamics. Birds should be surveyed diurnally in the morning, midday, and evening hours while appropriate nocturnal surveys and/or tracking indices are incorporated to sample mammals.

a. Avian Surveys

(1) Minimum of twelve months data collection

(2) Minimum of two randomly selected sampling trips/month

(3) Minimum of two survey samples/month for each of the survey points during the diurnal periods of morning, midday and evening[2]

b. Mammalian Surveys

(1) Minimum of twelve months data collection

(2) Minimum of one randomly selected sampling trip/month

c. Data from Other Sources

(1) Published data

(2) University studies

(3) Federal and State studies

(4) NEPA documents

(5) Radar studies

(6) ATC and airport "event logs" or wildlife management, patrol, monitoring logs

(7) Other acceptable data sources

2.6. BASIC WILDLIFE SURVEY TECHNIQUES FOR WILDLIFE HAZARD ASSESSMENTS. Not all species are equally detectable but an Assessment should strive to assess the presence/absence of known or suspected hazardous species on or near the airport, especially those documented within the facility's strike database. Hazardous avian species on or near airports are typically medium to large birds that exhibit either solitary or flocking behavior or small birds that congregate in large flocks.

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[2] It may be beneficial to increase avian surveys during spring and fall migrations.

a. **North American Breeding Bird Survey.** One objective procedure for assessing bird populations, based on North American Breeding Bird Survey (BBS) methodology, is the establishment of standardized survey points about ½ mile apart throughout the airport. Assigning each bird or bird flock observed during a point count to a grid location can be useful in further refining spatial distributions of birds on the airport. Additional survey points should be established in nearby off-airport areas (e.g., wetlands, open water impoundments, taxicab lot, golf course, City Park, etc.) suspected of attracting hazardous birds that move across the AOA.

Use of this design provides a baseline estimate of bird species and numbers on the airport that can be compared with other airports and the same airport in the future. Data on species and numbers are collected from established observation points along a survey route. A survey is defined as one visit to all observation points along a survey route. A survey day consists of one or more independent (i.e., replicated) surveys conducted during one day.

In many cases, observation points in forested areas on airport property are less critical for identifying hazardous avian species yet important for the systematic or ancillary identification of mammals. Although forested areas can provide attractive perching/roosting locations for some hazardous avian species (e.g., raptors, blackbirds), woodland interior birds are usually of limited concern unless they frequent open habitats which will be surveyed. Data relating to forested areas may also be collected by general observations.

The number of observation points required to obtain adequate coverage of the sample area will depend on the size, complexity, and physical features of the airport. The combined area covered by observation points (about 50 ha/point) should exceed 10% of the airport land area.

To conduct a survey, an observer starts at one end of the survey route and stops the vehicle at each observation point. After turning off the motor and exiting the vehicle, the observer records the numbers and species of all birds heard at any distance and all birds detected visually (with or without binoculars) within a 0.4 km (1/4-mi.) radius (i.e., 50 ha), for a 3-minute period. During the survey, significant birds (e.g., a flock of geese; an endangered species) observed outside the 0.4 km (l/4-mi.) radii around observation points or outside the 3-minute periods (e.g., while driving between stops) should be noted on a separate data form and reported under general observations.

It also may be useful to develop a coding procedure on the data sheet (or a separate data sheet) to record birds observed actually on or over a runway during the 3-minute observation periods. By knowing the percent of total airport runway area covered by the 0.4 km (1/4 mi.) radius observation points, an estimate of the number of birds on or crossing the runways per hour could be estimated. For example, if 10 observation points on an airport survey route covered 25% of the runway area and you recorded an average of 1.5 birds per 3-minute observation on or over a runway, then you would estimate that the airport averaged 120 birds on or crossing runways per hour.

For the area within a 0.4 km (1/4 mi.) radius of each avian observation point, a visual estimate should be made of the proportion of each major habitat type [e.g., pavement, short < 20 cm) grass, tall grass (>20 cm), water, shrub]. It may be useful to analyze data for certain species by observation point to associate that species with a certain habitat type or location on the airport. For example, if waterfowl are consistently observed at one observation point that has aquatic habitat, this should be stated in the analysis and presentation of results.

b. **General Observations.** In addition to the standardized survey, it is important to make general wildlife observations in areas outside the survey points. These observations can provide important information on significant bird hazards and/or zero tolerance species (e.g., Canada geese) and issues (e.g., endangered species) not fully covered by a standardized survey. Observations of wildlife use and movements around and within structures and other unique areas of the airport environment that are not covered in the standardized bird survey should still be recorded. In addition, observation points also should be established at selected areas of high wildlife use within 8 km (5 mi.) of the airport such as reservoirs, roosting sites, feedlots, landfills, and other potentially attractive sites. The FAA has established an 8 km (5 mi.) radius around the airport as the major area of concern.

   Additional analysis may also be performed. Each airport is different, and may require special analysis to document bird activity. For example, if a certain flocking species is present in large numbers, some analysis of mean flock size might be presented. If a large number of birds migrate through the airport area over a two-week period, a graphic presentation showing numbers at two week intervals instead of monthly or seasonal intervals might be appropriate. In addition, the general bird observations made outside of the standardized survey need to be incorporated. For example, tables might list the number of goose flocks recorded on the airport by month, the mean number of gulls seen per observation by month at a trash transfer facility approximately 3.2 km (2 mi.) from the airport, or the mean number of pigeons seen in a hangar per observation by season. Descriptive summaries might be included of general observations about flight patterns of a certain species over the airport or the habitat use by another species on the airport.

c. **Data Recording.** An example of the form used for data recording and is similar to the BBS is located in Appendix F and may be used to record survey data. This data form has standardized codes for weather and time. Encoding data will facilitate data analysis and entry into a database. The use of bird species codes is recommended. The American Ornithologists' Union (AOU) has established a standard four letter alphabetic code for most bird species (http://www.birdpop.org/alphacodes.htm). You may have to develop bird codes for special situations. For example, in some situations you may not always be able to identify gulls to species and need a code for unknown gull ("UNGU").

d. **Data Analysis and Descriptive Statistics.** Appropriate data analysis and interpretation will provide much of the information necessary to accurately assess

hazards and make management recommendations. Data will also serve as a baseline from which the effectiveness of management actions can be measured.

For each survey, the total birds observed per species and the number of observation points recording the species (frequency of sightings on the airport) should be calculated. The number of birds observed provides a measure of species density on the airport. The frequency of sightings at each location indicates the distribution of the species on the airport. Surveys can then be grouped to calculate mean number and frequency of birds (by species) seen per survey by time of day, month, and season.

If desired, statistical tests used to identify significant differences among months or seasons can be conducted using analysis of variance (ANOVA) and chi-square calculations.

e. **Seasonal Patterns.** Seasonal patterns or trends for species can be represented by graphing the mean number of birds and mean frequency of sightings per month or season as calculated above. The graph will provide a visual representation of obvious seasonal trends or patterns for each bird species observed in all habitat types (i.e., the entire airport). In many cases it will be useful to simplify presentations by combining species into groups/guilds (e.g., birds of prey, gulls, waterfowl) in these summary graphs, presenting the detailed data for individual species in a table or appendix.

f. **Mammal Surveys.** The collection of data pertaining to mammal populations is often time consuming and labor intensive. However, these data often are a necessary part of an Assessment and wildlife hazard analysis. Whether to collect data for all or for selected mammal species found on an airport depends on past and present wildlife hazards and the judgment of the Biologist. The Biologist should collect data related to identified and suspected hazardous mammal species, including ungulates, canids, and if necessary, rodents.

A number of survey designs developed for mammal species rely upon trapping and marking animals (e.g., mark-recapture studies). Mark-recapture studies are usually time consuming, labor intensive, and costly. Typically, the Biologist should consider a combination of data collection procedures that best identify a specific airport's hazardous species. Systematic vehicle surveys, tracking indices, catch-per-unit-effort survey, and spot mapping are commonly used techniques. Vehicle surveys should provide adequate data on large mammals such as ungulates, canids, and lagomorphs. Various tracking indices can be used to assess relative abundance or to aid in the identification of mammals beyond the scope of vehicle surveys which have varying degrees of success dependent on method (e.g.,., spotlight, night vision or Forward-Looking Infra-Red [FLIR]). Relative abundance data for small mammals are collected by catch-per-unit-effort sampling (snap traps). Data related to miscellaneous mammals (canids, ungulates, raccoons) can also be collected by spot mapping.

(1) Vehicle Surveys. Vehicle surveys at night using a spotlight, night vision equipment, or FLIR unit are performed along predetermined routes. The survey can be one continuous route around the airport or several routes covering different areas. Survey routes should include areas near runways and habitat types where ungulates, predators, or other target species are suspected or known to occur. Routes should sample a minimum of 10% of the total area. Aerial photographs, topographic maps, and maps that contain airport roadway systems can help in establishing survey routes. Preliminary examinations will be helpful to establish appropriate night time survey routes without excessive obstructions that limit viewing. Survey routes should be established carefully and remain constant throughout the study. Coordination with Air Traffic Control is essential during spotlight surveys to ensure no aircraft are in the AOA or traffic pattern in the line of spotlight beams. Additionally, spotlight surveys should ideally be scheduled at times when aircraft operations are limited or not present. **Spotlights must not be pointed at aircraft, other vehicles or the airport tower**. At a minimum, the survey must be conducted at least one time per month for the duration of the study.

Observations may be performed starting one half hour after sunset and ending after two to three hours or delayed, dependent on times of limited scheduled aircraft operations. In general, the survey route(s) are run only once per night although multiple runs can be made if time permits. All mammals and birds observed should be recorded by species and location. The start and end time of each survey and total distance driven should be recorded so that numbers seen per hour and distance can be calculated. Wildlife surveys should be conducted in most types of weather according to schedule, but it may sometimes be necessary to postpone survey periods during severe weather. Surveys should not be conducted in excessive wind or heavy rain as mammal activity may be significantly affected by weather.

(2) Catch-Per-Unit-Effort (small mammals). Small mammal populations may be measured if birds of prey or mammalian predators occur in the strike record. As a general guideline, transects with 50 traps each should be placed in at least four habitats or locations on the airport. Each transect should have 50 traps placed at 10-m intervals in one line or 25 traps each in two parallel lines 30 m apart. Traps are set in daylight hours and checked 24 hours later. Transects should be run for two to four consecutive nights in spring and again in autumn.

When checking traps, the following data should be collected for each trap: status of trap (sprung or unsprung) and species, if any, captured. Trapping results are recorded, by species, as the number of animals caught per 100 adjusted trap nights.

(3) Spot Mapping. Spot mapping consists of plotting on a grid map the location, date, and time of mammal observations and provides a general overview of mammal activity on the airport. Often, airport operations officers, who are required to perform runway sweeps, can assist in collection of this data as can pilots or other airport personnel. Additionally, mammal observations made while performing designated bird and mammal surveys can be mapped and used to augment spot observations.

2.7. BASIC HABITAT SURVEYS FOR WILDLIFE HAZARD ASSESSMENTS. Habitat evaluation is an essential part of an Assessment, and is required by 14 CFR Part 139.337 (c) (3). Many natural and artificial habitats are attractive to wildlife, and evaluation of these should provide the Biologist with information about the quantity, quality, and seasonal nature of their use. Wildlife exploit these habitats for food, water or cover, which may vary seasonally and/or throughout an animal's life cycle. Although they may be considered either a direct or indirect attractant[3], it remains essential for safe air traffic operations to fully understand their influence.

Land-use practices that attract or sustain hazardous wildlife populations on or near airports, specifically those listed in AC No: 150/5200-33B *Hazardous Wildlife Attractants On or Near Airports* Section 2 can significantly increase the potential for wildlife strikes. FAA criteria include land uses that cause movement of hazardous wildlife onto, into, or across the airport's approach or departure airspace or air operations area (AOA).

The FAA recommends the minimum separation criteria outlined in AC No: 150/5200-33B Section 1 for land-use practices that attract hazardous wildlife to the vicinity of airports. This separation criterion provides predetermined boundaries of concern around airports to be considered while conducting comprehensive, detailed studies and evaluations of wildlife populations and attractants.

a. Pre-existing Habitat Data. Pre-existing habitat inventory and geospatial information can prove useful regarding soils, vegetative species, topography, geography, habitat type, location and size. This data may be found in various locations or with various agencies such as:

(1) Airport Layout Plan

(2) Airport Master Plan

(3) Airport Environmental Assessment

(4) Airport Environmental Impact Statement

(5) U.S. Fish and Wildlife Service

(6) U.S. Geological Survey

(7) U.S. Army Corps of Engineers

(8) USDA – Natural Resources Conservation Service

(9) Department of Natural Resources (state)

(10) Department of Transportation (state)

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[3] Direct attractants (i.e., favorable vegetation for foraging) or indirect attractants (e.g., brushy vegetation may result in increased rodent populations which attracts hazardous raptors) can create equally hazardous environment for safe air operations.

b. Descriptive Habitat Data. A general description of the study area needs to be included within the Assessment. This should describe natural and artificial attractants both on-site and off-site within the separation criteria defined in AC No: 150/5200-33B Section 1.

(1) Natural[4] Habitat Data. This may include characteristics such as geographic location, topography, soils, climate, vegetation, agriculture, and wetlands/water features (drainages, ponds, lakes, rivers, and water impoundments).

(2) Artificial[5] Environment Data. This may include items such as airport buildings, jet bridges, towers, antennas, runways, taxiways, ramp, hangars, waste disposal operations and waste containers)..

c. Food. Naturally occurring wildlife foods such as insect and other invertebrate populations should be noted with descriptions, time of year, weather conditions, and environmental factors such as soil type, vegetative cover, and drainage conditions. In addition, management practices that enhance the production of these natural foods should be documented. An evaluation of small mammal populations as a food source for predators can be addressed in the sampling strategy discussed previously.

Plant seeds, fruits, and berries are other food attractants on airports for birds and mammals. Seasonal wildlife hazards may develop when seeds or fruits are abundant. Documentation of these food sources is an important component of the habitat analysis.

Review environments within 3,048 m (10,000 ft.) radius of the airport, and record food sources that attract wildlife. Agricultural fields, grain elevators, food product industries, fast food restaurants, livestock operations, wildlife refuges and sanctuaries, and waste handling facilities may attract significant numbers of birds and/or mammals, increasing the hazard to human safety and aircraft. A Wildlife Hazard Assessment should contain information relative to these sites such as the names and locations, and a description of the attractant and the potential hazard.

d. Vegetation. Vegetation and cover requirements vary by species and time of year. Relationships between wildlife species and cover types provide information necessary to develop appropriate wildlife management strategies. In reviewing

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[4] Natural habitat is defined for this purpose as biotic habitats including vegetation (e.g., grass, forest, shrub scrub, wetland, agriculture, desert, etc.) and water features (e.g., ponds, rivers, lakes, marine, retention/detention ponds, drainages, etc.).

[5] Artificial environment is defined for this purpose as man-made features (e.g., buildings, structures, towers, paved/hard surfaces, waste disposal operations, waste containers, etc.).

vegetative areas on an airport, it is important to record observations of species, management practices, seasonal growth, density, percent cover, and any noted wildlife associations. Use of specific areas by animals in the airport environment may assist the observer in identifying vegetative attractants.

e. **Water.** Water sources are wildlife attractants, especially fresh water sources in coastal areas. Reservoirs, streams, ponds, drainage basins, seep areas, and ephemeral water sources should be identified and mapped. Gulls, waterfowl, shorebirds, and marsh birds may be attracted to the airport because of abundant food or drinking and resting sites available in existing water resources.

f. **Structures.** Buildings, areas adjacent to buildings, and equipment on airports are readily used by some wildlife species, such as European starlings, pigeons, gulls, sparrows, crows, raptors, mice, rats, skunks, and woodchucks. Wildlife use of structures can present threats to human safety and aircraft, and may cause unsanitary working conditions or damage to structures.

The reasons for use of most structural features by wildlife are usually easily determined, while others are less obvious. For example, feral pigeons may loaf on just one ledge of a particular building because it provides shelter from the wind or protection from predators. The Qualified Airport Wildlife Biologist should determine what features are attractive to problem species, and why. A strategy can then be developed to reduce or eliminate the problem.

g. **Soil.** The type(s) and fertility of soils present on an airport is a general indicator of biological productivity. Habitat quality is directly related to soil fertility and other soil conditions. The nutritive value, quantity, and attractiveness of plant and animal food organisms varies widely with soil types and conditions. For example, sandy, well-drained soils that dry quickly after rainfall generally produce less biomass and are less likely to harbor an abundant population of earthworms and other invertebrates.

Identification and documentation of soil types and conditions on the airport and vicinity should be an integral part of an overall assessment or study. In most states, information on soil types and conditions can be acquired from soil survey publications available from the USDA Natural Resource Conservation Service (NRCS) or the Cooperative Extension Service. These publications contain soil maps and descriptions, formations, morphology and soil classifications. However, on airports where large scale soil disturbance, such as grading, leveling, and filling, have been conducted, soil maps may be of limited value.

h. **Spot Mapping.** Because attractants may vary seasonally and following precipitation, spot mapping the location and date of features such as fruit and seed bearing vegetation, ephemeral pools and temporary ponding of water or puddles throughout the AOA will help identify food sources, drainage problems and grade deficiencies.

2.8. Basic Assessment of Airport and Aircraft Operations. Assessment of airport and aircraft operational procedures is an essential part of an Assessment. Hazardous wildlife only presents a risk to aviation if aircraft and wildlife occupy the airspace or movement areas at the same time and location. Persons conducting Assessments must also gather general observation data and other information related to airport and aircraft operations regarding wildlife hazards. Biologists should monitor NOTAMs, ATIS advisories, and published Airport/Facilities Directory information to ensure specific information and not a blanket advisory is issued. Assessment of ATC's involvement in identifying potential hazards as observed or relayed by pilots or airport operations personnel should include determination that wildlife dispersal is coordinated with ATC such that hazards are not inadvertently increased by dispersing wildlife into the path of aircraft movements. ATC must provide wildlife control teams access to movement areas of the airfield, but also communicate with them during the implementation of mitigation measures to ensure dispersal paths are observed and de-conflicted with aircraft movements.

Biologists should also query users of the airport for their inputs on wildlife observed on and around the airport. For example, pilots should be interviewed about their experience in the local area as they have a perspective not available to ground-based personnel. Congregations of towering raptors or gulls over off-airport facilities such as landfills and food-processing plants are often detected this way as are major roost sites of blackbirds, starlings, vultures, or crows. Time should be dedicated to visit the pilots' lounge or to visit the local airline representative/facility agent for informal interviews. Fixed-base operators (FBO's) should also be visited and personnel interviewed for their experience with hazardous wildlife in the local area. Pilots, especially those operating non-commercial or private aircraft, must be aware that they have the discretion to delay takeoffs or departures, ask for wildlife dispersal action, or requires alternate runways, departure .or approach paths to avoid identified hazards.

Airline and private maintenance personnel should similarly be interviewed for their perspective on local hazardous wildlife and their reporting procedures when strikes are detected on post-or pre-flight inspections of aircraft.

Other airport users must also be interviewed and included in the Assessment process. Aircraft Rescue and Fire Fighting (ARFF) and Airport Security Personnel are always present on airports during operations and have a unique view of the airfield. They must also be notified should major dispersal operations be conducted, such as with pyrotechnics, where the slight chance for grass fires or security concerns are present.

SECTION 3.

PROTOCOL FOR THE PREPARATION OF A WILDLIFE HAZARD MANAGEMENT PLAN (PLAN)

3.1. INTRODUCTION. When complete, the Assessment is submitted by the airport to the FAA for review and approval. The FAA will also use it to determine if the airport must do a Wildlife Hazard Management Plan. In reaching this decision, the FAA will consider the Assessment, the aeronautical activity at the airport, the views of the certificate holder and airport users, and any other pertinent information (14 CFR 139.337 (d)(1–6)).

The goal of an airport's Plan is to minimize the risk to aviation safety, airport structures or equipment, or human health posed by populations of hazardous wildlife on and around the airport. The Plan accomplishes this through the identification of hazardous wildlife and their attractants, suitable proactive and reactive management techniques, necessary resources and supplies to successfully implement a wildlife hazard management program and personnel responsibilities and training requirements. Appropriate federal, state and possible local wildlife control permits should be identified as well as a schedule and methodology to evaluate and update the Plan.

3.2 WILDLIFE HAZARD MANAGEMENT PLAN REGULATORY REQUIREMENTS AND METHODOLOGY. 14 CFR 139.337 (f)(1–7) provides specific guidance as to what facts must be addressed in a Plan.

a. ***14 CFR 139.337 (f)(1). "A list of the individuals having authority and responsibility for implementing each aspect of the plan."*** This list shall assign or delegate specific responsibilities for various sections of the Plan to various airport departments and other interested federal, state or local agencies, such as:

(1) Airport Director
(2) Operations Dept.
(3) Maintenance Dept.
(4) Security Dept.
(5) Planning Dept.
(6) Finance Dept.
(7) Wildlife Coordinator
(8) Wildlife Hazards Working Group
(9) Air Traffic Control
(10) Airlines
(11) Pilots
(12) Fixed-base Operators

(13) Air-side tenants

(14) Land-side tenants

(15) State Wildlife Agency

(16) Local law enforcement authorities

(17) U.S. Fish and Wildlife Service

b. ***14 CFR 139.337 (f)(2). "A list prioritizing the following actions identified in the ASSESSMENT and target dates for their initiation and completion."*** The Plan should provide a prioritized list of problem wildlife populations and wildlife attractants (food, cover, and water) identified in the Assessment, proposed mitigation actions, and target starting and completion dates. A list of completed wildlife population management projects and habitat modification projects designed to reduce the wildlife strike potential can be included to provide a history of work already accomplished. It is helpful to group attractants by areas and ownership.

AIRPORT PROPERTY	NON-AIRPORT PROPERTY
Air Operations Area (AOA)	Within 2 miles of AOA
Within 2 miles of AOA	Within 5 miles of AOA
Airport structures	

Wildlife mitigation techniques at commercial airports involve integrated and systematic methodologies that typically progress (based on necessity) from proactive measures to reactive measures. The reduction of wildlife threats at an airport is often the unintended or secondary consequence of ongoing habitat management such as mowing, tree removal, drainage reparations, out-of-grade surface restoration and the establishment or maintenance of perimeter fencing.

(1) ***14 CFR 139.337 (f)(2)(i). Wildlife population management.*** Address species-specific population management plans (e.g., deer, gulls, geese, and coyotes). The progression of techniques employed to mitigate hazardous species include habitat modification and resource protection, exclusion devices, repellent / harassment measures, and removal.

(a) Habitat Management
(b) Exclusion (fencing, netting, anti-perch/ nesting devices)
(c) Repellents (chemical, audio, visual)
(d) Harassment (pyrotechnics, falconry, dogs, radio-controlled models, etc.)
(e) Capture (chemical, live traps, lethal traps)
(f) Toxicants (oral and contact); Fumigants
(g) Shooting

When applicable, airports should identify resident or seasonal "zero-tolerance[6]" hazardous species based on historical strike records or recognized threat posed by such species at the facility. The ranking of hazard level for birds and terrestrial mammals in Table 1 should also be considered when an airport determines zero-tolerance species and subsequent management protocols. Ungulates (i.e., deer, elk), canids (i.e., coyotes, domestic dogs) and certain avian species (i.e., Canada geese, snow geese) are universal candidates for zero-tolerance management protocols but other hazardous species may require conditional zero-tolerance management. Flocking birds such as European starlings and gulls pose a significant and increasing hazard to aircraft as flock size increases. Therefore, an airport may choose to require zero-tolerance management protocol for these (or similar) species only when an unacceptable flock size has been reached. Determination of action based on flock size is often difficult and requires experienced consideration of variables such as hazard relative to species, airport operation type, and current aircraft activity.

(2) ***14 CFR 139.337 (f)(2)(ii). Habitat modification.*** Address natural and artificial habitats that may provide a food, water or cover source to hazardous species to reduce their attractiveness. Advisory Circular 150/ 5200-33B (AC-33B) *Hazardous Wildlife Attractants On or Near the Airport* provides in-depth discussion on acceptable/unacceptable habitats and land-use practices on and near airports. Management of the vegetative/prey food items for hazardous species is often season or weather related and may include rodent control, garbage storage, landscaping, and management of standing water.

(a) Vegetative/prey food items for hazardous species
- **(i)** Prey items (rodents, earthworms, insects)
- **(ii)** Vegetative food items (grain/seeds, fruit, desirable grasses)
- **(iii)** Garbage (handling, storage)
- **(iv)** Handouts (feeding wildlife)

(b) Vegetation management may include:
- **(i)** AOA vegetation
- **(ii)** Drainage ditch vegetation
- **(iii)** Landscaping
- **(iv)** Agriculture

(c) Water management may include:
- **(i)** Permanent Water
- **(ii)** Wetlands

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[6] Zero-tolerance designation in the airport environment denotes wildlife species that represent an unacceptable high risk to safe aircraft operations. Their presence in the airport environment cannot be tolerated and warrants immediate management action to remove them from the AOA using appropriate techniques (i.e., harassment, lethal take, capture/ relocate, etc.).

(iii) Canals / ditches / streams
(iv) Holding ponds
(v) Sewage (glycol) treatment ponds
(vi) Ephemeral water
(vii) Runways, taxiways, aprons
(viii) Other wet areas

(d) Airport buildings may include:

(i) Airfield structures
(ii) Abandoned structures
(iii) Terminal
(iv) Airport construction
(v) Leased facilities

(3) ***14 CFR 139.337 (f)(2)(iii). Land use changes.*** Eliminate agricultural activities and standing water on the airport. When feasible, off-site attractants within the defined separation criteria such as agricultural activities, waste handling facilities that are not fully enclosed, surface mining, urban development, wildlife refuges and storm water management systems should be eliminated as well. See Advisory Circular 150/ 5200-33B for an in-depth discussion on acceptable/ unacceptable land-use practices on and near airports.

c. ***14 CFR 139.337 (f) (3). "Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits."*** Certain species of wildlife are protected at all levels of government—local, state, and federal. Address the specific species involved and their legal status in this section. Describe the wildlife management permitting requirements and procedures for all levels of government having jurisdiction.

(1) Federal (50 CFR, Parts 1 to 199)

(2) State (Fish and Game Code - or equivalent)

(3) City and County ordinances

(4) If pesticides are to be used, the following are also needed:

(a) Pesticide-use regulations and licensing requirements
(b) Federal regulations and licensing: Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
(c) State regulations and licensing (varies by state)

For the purpose of the Plan, summaries are generally adequate. It is not necessary to quote chapter and verse of federal, state, and local laws and regulations.

d. ***14 CFR 139.337 (f) (4). "Identification of resources that the certificate holder will provide to implement the plan."*** Provide information identifying what resources the airport will supply in terms of personnel, time, equipment (e.g., radios, vehicles, guns, traps, propane cannons, etc.), supplies (e.g., pyrotechnics), pesticides (restricted/non-restricted use) and application equipment and supply sources for equipment and supplies.

e. ***14 CFR 139.337 (f) (5) "Procedures to be followed during air carrier operations that at a minimum includes—"***

(1) ***14 CFR 139.337 (f) (5) (i) "Designation of personnel responsible for implementing the procedures."*** This section corresponds with the aforementioned 14 CFR 139.337 (f)(1) and describes who is required for successful mitigation of wildlife hazards in the airport environment.

- **(a)** Wildlife Control Personnel
- **(b)** Wildlife Coordinator
- **(c)** Operations Dept.
- **(d)** Maintenance Dept.
- **(e)** Security Dept.
- **(f)** Air Traffic Control
- **(g)** Pilots
- **(h)** Airlines
- **(i)** Fixed-base Operators
- **(j)** Airside/landside tenants

(2) ***14 CFR 139.337 (f) (5) (ii) "Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin."*** This section provides a description of known or anticipated locations that should be monitored for successful mitigation of wildlife hazards in the airport environment.

- **(a)** Runway, taxiway
- **(b)** AOA
- **(c)** Perimeter fence
- **(d)** Other areas attractive to wildlife

(3) ***14 CFR 139.337 (f) (5) (iii) "Wildlife hazard control measures."*** This section corresponds to the aforementioned 14 CFR 139.337 (f)(2)(i) and details current or anticipated techniques that may be implemented for successful mitigation of wildlife hazards in the airport environment. Techniques discussed in this section typically represent an integrated approach and include exclusion, repellent, harassment, capture, lethal control or even relocation measures in specific instances. In addition, operational control measures such as scheduling of flights, air traffic control advisories, Pilot Reports (PIREPS), UNICOM advisories, avoidance procedures, delayed takeoffs and approaches, use of alternate runways or traffic direction, must be considered.

(4) ***14 CFR 139.337 (f) (5) (iv) "Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower."*** This section provides a description of regulated and site-specific protocols for the communication and/ or notification of wildlife control activities, identified and current wildlife hazards on or near the airport environment or imminent wildlife threats to aircraft operations on or near the airport. Protocols may include training in airport communication and the development of notification procedures for airport personnel and Air Traffic Control when wildlife control

procedures are implemented or in response to immediate wildlife threats to safe air operations to ensure dispersal activities do not inadvertently increase wildlife hazards. Communication and/ or notification procedures within the Plan should recognize pilot reports and ATC advisories and establish responsibilities for reporting wildlife strikes. This section may also provide equipment requirements that include radios, cellular phones, and lights and an official call list with numbers.

f. **14 CFR 139.337 (f) (6) "*Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section," including:*** At a minimum, the Plan should be reviewed once annually and anytime a triggering event occurs as defined in 139.337(b)(1–3). The review(s) should include representatives from all airport departments involved in wildlife hazard management efforts and the Biologist who did the original Assessment. It is often helpful for the airport manager to appoint a Wildlife Hazards Working Group that periodically reviews the airport's Plan and the plan's implementation to make recommendations for further refinements or modifications.

(1) ***14 CFR 139.337 (f) (6) (i) "The plans effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and:"*** Input should be provided from all airport departments, Air Traffic Control, and the Biologist as to the effectiveness of the Plan. Good records are necessary to properly evaluate the effectiveness of a program.

(2) ***14 CFR 139.337 (f) (6) (ii) "Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated."*** For example—

- **(a)** Number of times wildlife seen on AOA
- **(b)** Requests for wildlife dispersal from air traffic control, pilots, or others
- **(c)** Increased number of strikes

Regulations 14 CFR 139.337 (f) (6) (i) and (ii) cannot be effectively implemented or evaluated without documentation of wildlife strikes. The effectiveness of a Plan to reduce wildlife hazards both on and near an airport and the reevaluation of all facets of damaging/nondamaging strikes from year to year requires accurate and consistent reporting. Therefore, every Plan should include a commitment to document all wildlife strikes that occur within the separation distances described in sections 1-2 and 1-3 of Advisory Circular 150/5200-33B *Hazardous Wildlife Attractants On or Near Airports* to better identify, understand and reduce threats to safe aviation.

g. ***14 CFR 139.337 Comments (f) (7) "A training program conducted by a Qualified Airport Wildlife Biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section."*** Recurrent training requirements as described in 14 CFR 139.303 should equip personnel actively involved in an airports wildlife hazard management program with sufficient resources needed to

comply with the requirements in their Airport Certification Manual and the requirements of 14 CFR 139.337. Personnel identified in 14 CFR 139.337 (f) (5) (i) should be considered for inclusion within this recurrent training. Pesticide user training and certification requires its own regulated training and certification schedule and should be closely followed.

3.3. FEDERAL AND STATE-LISTED THREATENED AND ENDANGERED SPECIES, AND SPECIES OF SPECIAL CONCERN. The Endangered Species Act (ESA) directs all Federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the Act. Section 7 of the Act, called "Interagency Cooperation," is the mechanism by which Federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species. This section also describes procedures for responding to requests by state wildlife agencies to facilitate and encourage habitats for state-listed threatened and endangered species or species of special concern that occur on airports and may pose a threat to aviation safety.

The FAA's action in requiring an airport operator to develop, submit for approval, and implement a Plan is considered a Federal action, as defined in the Endangered Species Act, and therefore, subject to section 7 consultation with the U.S. Fish and Wildlife Service (USFWS).

a. **Procedures for Federal Threatened and Endangered Species on Airports.** Section 7 of the ESA, as amended, applies to Federal agency actions and sets forth requirements for consultation to determine if the proposed action "may affect" an endangered or threatened species. If an agency determines that an action "may affect" a threatened or endangered species, then Section 7(a)(2) requires each agency, generally the lead agency, to consult with the USFWS or the National Marine Fisheries Service (NMFS), as appropriate, to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of any Federally listed endangered or threatened species or result in the destruction or adverse modification of critical habitat. (The effects on fish, wildlife, and plants include the destruction or alteration of habitat and the disturbance or elimination of fish, wildlife, or plant populations.) If the Secretary of the Interior has developed a recovery plan for an affected species pursuant to section 4(f) of the ESA, that plan should be reviewed by FAA NEPA practitioners to ensure that assessments of impacts from FAA actions consider the management actions and criteria for measuring recovery identified in the plan. If a species has been proposed for Federal listing as threatened or endangered, or a critical habitat has been proposed, section 7(a) (4) states that each agency shall confer with the Services. Refer to the FWS and NMFS *"Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act,"* March 1998.

Section 9 prohibits a Federal agency from taking, without an incidental take permit, any endangered species. Where a conservation plan has been developed pursuant to a section 10 permit (incidental take permit), the FAA NEPA practitioner should

ensure that the impact analysis contained in the NEPA document for the affected species is consistent with the predicted impacts described in the conservation plan. Under the Magnuson-Stevens Act, Federal agencies must consult with the NMFS with regard to any action authorized, funded, or undertaken that may adversely affect any essential fish habitat identified under the Act. The consultation procedures are generally similar to ESA consultation requirements.

Under Title 14, Code of Federal Regulations, part 139.337(e), the FAA may direct an airport operator to develop a Wildlife Hazard Management Plan or to update an existing plan. In these instances, the airport operator shall contact and request information from the local USFWS Ecological Services Field Office regarding the presence of Federally-listed or proposed species or designated or proposed critical habitat occurring on or near the airport.

(1) No Further Coordination is Required.

If the USFWS indicates there are no Federally-listed or proposed species or designated or proposed critical habitat occurring on or near the airport, no further action is required regarding the section 7 consultation.

(2) Further Coordination is Required.

If the USFWS indicates that Federally-listed or proposed species or designated or proposed critical habitat occur on or near the airport, the following additional actions must be taken.

(a) The airport operator shall take this information into consideration when developing its Wildlife Hazard Management Plan.

(i) The airport operator must prepare a Biological Assessment (50 CFR 402.13) assessing the effects of the Wildlife Hazard Management Plan on the Federally-listed or proposed species or designated or proposed critical habitat. The Biological Assessment must be submitted to FAA along with the draft plan.

(ii) The airport operator may request early consultation if it has reasons to believe some of the actions proposed under the Wildlife Hazard Management Plan may affect federally-listed or proposed species or designated or proposed critical habitat.

(b) When the plan is submitted to the FAA for review and approval, the FAA Regional Coordinator must contact the local USFWS Ecological Services Field Office responsible for section 7 consultations and request consultation on the plan.

(c) The section-7 consultation must be completed before the Wildlife Hazard

Management Plan is given final FAA approval and returned to the airport operator for inclusion in its Airport Certification Manual and implementation.

(d) The signature level for both letters is at the discretion of the FAA Regional Office.

b. Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State-Listed Threatened and Endangered Species and Species of Special Concern on Airports. The airport's AOA is an artificial environment that has been created and maintained for aircraft operations. Because an AOA can be markedly different from the surrounding native landscapes, it may attract wildlife species that do not normally occur, or that occur only in low numbers in the area. Some of the grassland species attracted to an airport's AOA are at the edge of their natural ranges, but are attracted to habitat features found in the airport environment. Also, some wildlife species may occur on the airport in higher numbers than occur naturally in the region because the airport offers habitat features the species prefer. Some of these wildlife species are State-listed threatened and endangered species or have been designated by State resource agencies as species of special concern.

Many State wildlife agencies have requested that airport operators facilitate and encourage habitat on airports for state-listed threatened and endangered species or species of special concern. State-Listed threatened and endangered species and species of special interest are not afforded the level of protection of federally-listed species. These species, or the habitat needed to support them should not be allowed on airport property if direct or associated hazards are caused by their promotion in the airfield environment. Managing the on-airport environment to facilitate or encourage the presence of hazardous wildlife species can create conditions that are incompatible with, or pose a threat to, aviation safety.

3.4. NATIONAL ENVIRONMENTAL POLICY ACT REVIEW. The FAA's approval of a draft Plan is covered by the categorical exclusion in FAA Order 1050.1E, paragraph 308e. Before the FAA approves a draft Plan, the FAA must determine whether or not the draft involves extraordinary circumstances (see FAA Order 1050.1E, paragraphs 303c and 304).

a. If a draft does not involve extraordinary circumstances, the FAA may categorically exclude the Plan under FAA Order 1050.1E, paragraph 308e.

b. If a draft involves extraordinary circumstances, the FAA may require the airport sponsor to prepare an Environmental Assessment, or the FAA may prepare an Environmental Impact Statement.

Once a draft Plan is approved, the plan is returned to the airport sponsor for inclusion in the airport's Airport Certification Manual and is enforceable.

SECTION 4.

PROTOCOL FOR CONTINUAL MONITORING

4.1. INTRODUCTION. Upon completion and approval of an Assessment and Plan, certificate holders should consider implementing a continual monitoring program for wildlife hazards. Recurrent wildlife monitoring would be outlined in the certificate holder's Plan and ACM. The goal of systematic, long-term wildlife hazard monitoring in an airport environment is to identify changes to wildlife composition, numbers, attractants, travel corridors and the general airport environment in a timely manner that can affect the presence or behavior of wildlife. Continual monitoring would enhance safety because it allows the airport operator to regularly determine trends in wildlife fluctuations and target mitigation practices to reduce the possibility of strikes. The certificate holder can use this information to quickly and efficiently implement mitigation techniques and evaluate the efficacy of its mitigation program. Ultimately, the frequent hazard identification and adaptable mitigation would reduce the likelihood of wildlife strikes. Additionally, continual monitoring should decrease the time, effort, personnel hours, and money spent on mitigation because hazards would be identified before they pose a high risk.

In contrast to an assessment or inventory of wildlife hazards in an airport environment, a monitoring program over time assesses changes and trends of the resources. Consideration should be given to data points and techniques tested and incorporated into an airport's Assessment for use in its long term monitoring protocol. Ultimately, the techniques used for long term monitoring may change over time dependent on the airports goals/ management objectives, personnel changes, availability of improved methodologies/ equipment or recommendations based on systematic evaluation of the monitoring program.

4.2 CONTINUAL MONITORING PROTOCOL. The monitoring should consist of monthly wildlife surveys and identification of significant changes to natural/ artificial habitats and other attractants. This monitoring would best be conducted by a Qualified Airport Wildlife Biologist.

a. Avian Surveys.

(1) Twelve months data collection

(2) Minimum one survey/ month for each of the survey points during the diurnal periods of morning, midday and evening; unless the Assessment, strike records or monitoring data justifies the elimination of a survey time period (i.e., elimination of midday surveys for example)[7].

b. Mammalian Surveys.

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[7] It may be beneficial to increase avian surveys during spring and fall migrations.

(1) Twelve months data collection.

(2) Airports that have documented hazardous terrestrial mammals (i.e., deer, canids) should conduct a minimum of one survey/ month. Airports without recognized terrestrial mammal hazards should conduct a minimum of quarterly surveys throughout the year.

c. Monitoring of Airport Procedures. Monitoring of airport procedures should include:

(1) ATC and airport "event logs" or wildlife management, patrol, monitoring logs

(2) Wildlife/aircraft strike reports

(3) Federal/State Depredation Permit use; Special Permit use (e.g., Eagle Disturbance or Nest Removal Permits)

4.3 CONTINUAL MONITORING ANNUAL REPORT. As part of a continual monitoring program, a certificate holder may choose to prepare an annual report to best evaluate the efficacy of its wildlife mitigation program summarizing:

(1) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences

(2) Identification and location of features on and near the airport that attract wildlife

(3) Description of wildlife hazards to air carrier operations

(4) Description of wildlife strikes during the year

(5) Discussion of any significant modifications on or near the airport property

(6) Summary of ATC and airport "event logs" or wildlife management, patrol, monitoring logs

(7) Summary of Federal/State Depredation Permit use; Special Permit use (e.g., Eagle Disturbance or Nest Removal Permits)

APPENDIX A: Airport Wildlife Hazard Site Visit Checklist

Wildlife Hazard Site Visits must be conducted by a Qualified Airport Wildlife Biologist to provide an airport a quick analysis and actionable information concerning wildlife hazards that allows the airport to expedite the mitigation of these hazards. A Site visit can be used to investigate a triggering event or other significant event and determine whether an existing Plan adequately addresses the incident and if applicable, the necessity of an Assessment.

During the Site visit, the Qualified Airport Wildlife Biologist collects and compiles information on the airport's wildlife hazard history, documented and suspected wildlife hazards, habitat attractants, control activities, airport operations procedures, communications of hazards through ATC and pilots, aircraft operations and scheduling. A Site visit is typically conducted over a period of one to three days during which a Qualified Airport Wildlife Biologist evaluates the habitat on and surrounding the airport and records direct or indirect wildlife observations; and reviews the current Plan, current wildlife management activities and airport wildlife strike data.
The following is a Checklist that can be utilized to insure a complete and detailed site visit. The checklist can also be used to review the site visit protocol and report.

The following is a Checklist that can be utilized to insure a complete and detailed Site visit. The checklist can also be used to review the Site visit protocol and report.

Airport Wildlife Hazard Site Visit Checklist

Airport Name:		
Date of Site Visit:		**Time:**
Airport Representative:		
Qualified Airport Wildlife Biologist:		
	Yes/No	**Comments/Observations**
Information review		
Personnel and departments responsible for airport ops		
Type of airport/annual movements		
Recent improvements		
Strike records (in database or airport records)		
Depredation permits		
Review of habitat management activities		
Mowing		
Clearing ditches of vegetation		
Tree removal		
Other		
Review wildlife management activities		
Pyrotechnics		
Fencing		
Wildlife removal (lethal, trapping, etc.)		
Nest removal		
Other		
Review Plan (if applicable)		
Observe features on airport property that may attract wildlife		
Wetlands		
Ditches		
Stormwater Treatment Areas		
Forested/Shrub Areas		
Abandoned Structures		
Construction Sites/Debris		

Airport Wildlife Hazard Site Visit Checklist (page 2)

Observe features adjacent to airport property that may attract wildlife (5,000 ft 10,000 ft 5 miles)		
Wetlands		
Agriculture		
Forested/Shrub Areas		
Golf Courses		
Other		
Observe and identify wildlife species and/or sign		
List all wildlife observed		Please list on separate data sheet
List all wildlife sign observed		Please list on separate data sheet
State and/or Federally Listed Species		
Site Visit Report		
General airport information		
Strike data analysis		
List of bird/mammal species observed and times of observations		
State and federal status of species		
Description of habitat features (natural and man-made) that may attract wildlife on and near the airport		
Map of airport with location of wildlife attractants on or near airport and observations		
Recommended actions* for reducing identified wildlife hazards to air carrier operations		
Recommendation regarding whether a 12-month wildlife hazards assessment is necessary		

*Recommendations can include (but are not limited to) the following:

- Clearing vegetation in ditches to improve drainage and reduce nesting habitat
- Mowing grass to recommended heights
- Tree removal inside the perimeter fence
- Repair breaches in perimeter fence when observed
- Keep vegetation maintained along fencing
- Install perching deterrents on signs and lights
- Use pyrotechnics to disperse hazardous wildlife
- Trap and remove hazardous mammal species (beavers, feral hogs, etc.)

APPENDIX B: Airport Wildlife Hazard Assessment and Report Checklist

A Wildlife Hazard Assessment (Assessment) is a 12-month assessment of wildlife and wildlife attractants on or near an airport. An Assessment provides the baseline data and understanding of wildlife hazards and trends for preparing a Wildlife Hazard Management Plan (Plan).

The following is a Checklist that can be utilized to insure a complete and detailed Assessment. The checklist can also be used to review the Assessment protocol and report.

Airport Wildlife Hazard Assessment and Report Checklist

Airport Name:
Airport Representative:
Qualified Airport Wildlife Biologist:
Assessment Dates (Initiation/Completion):
Assessment Report – Date Completed:
Assessment Report – Date Approved by FAA:

	Yes/No	Comments/Observations
ASSESSMENT CHECKLIST		
Analysis of the event or circumstances that prompted the assessment (14 CFR 139.337 (c)(1))		
General Airport Information Review		
Personnel and departments responsible for airport ops		
Type of airport/annual movements		
Recent improvements		
Strike records (in database or airport records)		
Depredation permits		
Wildlife hazard management plan (if applicable)		

Airport Wildlife Hazard Assessment and Report Checklist (page 2)

Review of Habitat Management Activities	**Yes/No**	**Comments/Observations**
Mowing		
Drainage maintenance/clearing		
Tree removal		
Other		
Review of Wildlife Management Activities		
Harassment		
Exclusion		
Wildlife removal (lethal, trapping, etc.)		
Nest removal		
Other		
Identification and location of features on airport that attract wildlife (14 CFR 139.337 (c)(3))		
Wetlands		
Drainages		
Agriculture		
Water impoundments/ponds/streams/marine		
Forested/Shrub Areas		
Structures/towers/antennas		
Construction Sites/Debris		

Airport Wildlife Hazard Assessment and Report Checklist (page 3)

Identification and location of features near airport (within 5 miles) that attract wildlife (14 CFR 139.337 (c)(3))	**Yes/No**	**Comments/Observations**
Wetlands		
Ditches		
Agriculture		
Water impoundments/ponds/streams/marine		
Landfill		
Forested/Shrub Areas		
Golf Courses		
Other		
Identification of wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences (14 CFR 139.337 (c)(2))		
Assessment = Minimum of 12 consecutive months		
Locate standardized observation points on airport (observation points off airport are optional) to adequately observe wildlife and their movements on all parts of AOA.		
Point count surveys conducted morning, midday and evening		
Avian surveys conducted a minimum of twice monthly		
Mammal surveys conducted a minimum of once monthly		

Airport Wildlife Hazard Assessment and Report Checklist (page 4)

	Yes/No	Comments/Observations
Record results of point count surveys and all general wildlife observations (including wildlife sign)		
Small mammal trapping (optional)		
Record presence of state and/or federally listed species		
REPORT SECTION-(Assessment Report must have a **Methods**, **Results** and **Recommendations** section to provide required information)		
Executive summary and qualified airport wildlife biologist qualifications (recommended)		
Analysis of the event or circumstances that prompted the study (14 CFR 139.337 (c)(1))		
General airport information (refer to General Airport Information Review section at beginning of appendix)		
Strike data spreadsheet		
Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences (14 CFR 139.337 (c)(2))		
Description of avian and mammal survey methodologies (minimum survey methodologies described above)		
List and description of bird/mammal species observed		
State and federal status of species		

Airport Wildlife Hazard Assessment and Report Checklist (page 5)

Map of airport with location of observation points		
Identification and location of features on and near the airport that attract wildlife (14 CFR 139.337 (c)(3))		
Description of habitat features (natural and man-made) that may attract wildlife on and near the airport		
Map of airport with location of wildlife attractants on airport property		
Map of airport with location of wildlife attractants near airport (within 5,000 ft, 10,000 ft, and 5 miles).		
Description of the wildlife hazards to air carrier operations (14 CFR 139.337 (c)(4))		
List the wildlife hazards that have been observed that are unique to this airport		
Recommended actions for reducing identified wildlife hazards to air carrier operations (14 CFR 139.337 (c)(5))		
List of prioritized recommendations* that are unique to this airport (is a Section 7 Consultation required based on these recommendations?)		

*Recommendations can include (but are not limited to) the following:

- Clearing vegetation in ditches to improve drainage and reduce nesting habitat
- Mowing grass to recommended heights
- Tree removal inside the perimeter fence
- Repair breaches in perimeter fence when observed
- Keep vegetation maintained along fencing
- Install perching deterrents on signs and lights
- Use pyrotechnics to disperse hazardous wildlife
- Trap and remove hazardous mammal species (beavers, feral hogs, etc.)

APPENDIX C: Airport Wildlife Hazard Management Plan Checklist

A Wildlife Hazard Management Plan (Plan) is a document that is prepared by the airport if the FAA determines a Plan is necessary based on the results of an Assessment. The goal of the Plan is to minimize risk to aviation safety, airport structures, or equipment, or human health posed by populations of hazardous wildlife on and around the airport. The items that must be included in the plan are listed in 14 CFR 139.337(f). These items are listed and further described in the list below.

The following is a Checklist that can be utilized to insure a complete and detailed Plan. The checklist can also be used to review the Plan contents.

Airport Wildlife Hazard Management Plan Checklist

Airport Name:
Airport Representative:
Plan Preparation Date:
Plan FAA Review Date:
FAA Reviewer:

	Yes/No	Comments/Observations
Brief introduction describing hazards identified in the Assessment and the wildlife attractants on and near the airport		
A list of individuals having authority and responsibility for implementing each aspect of the plan (14 CFR 139.337 (f)(1))		
Decision making roles and responsibilities including: Airport Director, Wildlife Coordinator, Operations Supervisor, Maintenance Supervisor, Security Dept., Planning Dept., Finance Dept., Wildlife Hazard Working Group		
Other		
A list prioritizing the following actions identified in the Assessment and target dates for their initiation and completion (14 CFR 139.337 (f)(2)):		
(i) Wildlife population management (list of problem wildlife populations and mitigation actions/target dates)		
(ii) Habitat modification (list of wildlife attractants and mitigation actions/target dates)		
(iii) Land use changes (list of land use on and near airport that attract wildlife and mitigation actions/target dates)		
Ongoing data collection and analysis		
Recordkeeping		
Other		
Do any proposed activities require NEPA review or Section 7 Consultation with USFWS?		

Airport Wildlife Hazard Management Plan Checklist (page 2)

	Yes/No	Comments/Observations
Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits (14 CFR 139.337 (f)(3)) (Copies of all valid permits must be included in Plan)		
Federal depredation permit		
State game hunting permit		
Incidental take permits		
Pesticide-use license/permits		
Other		
Identification of resources that the certificate holder will provide to implement the plan (14 CFR 139.337 (f)(4))		
Personnel		
Field identification guides		
Pyrotechnics		
Vehicles		
Pesticides and application equipment		
Other (binoculars, traps, guns, radios, etc.)		
Sources of supplies		
Procedures to be followed during air carrier operations that at a minimum includes (14 CFR 139.337 (f)(5)):		
(i) Designation of personnel responsible for implementing the procedures (Wildlife patrol staffing and primary responsibilities, hours of availability, etc.)		
(ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin • Routine inspection procedures, • Documentation of inspections and observations • Runway/taxiway sweeps, perimeter fence inspections		

Airport Wildlife Hazard Management Plan Checklist (page 3)

	Yes/No	Comments/Observations
(iii) Wildlife hazard control measures • Monitoring • Recordkeeping, • Dispersal/harassment procedures • Procedures for wildlife control during different seasons and heavy air traffic times)		
(iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower • Training in communication procedures • Procedures for immediate coordination and response to pilot-reported wildlife strikes or observations		
Other		
Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following a triggering event, including 14 CFR 139.337 (f)(6)):		
(i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and (ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated • One or more meetings with Wildlife Hazard Working Group to review Plan • Procedures for documentation of wildlife observations and wildlife control activities • Protocol to meet training requirements		
A training program conducted by a qualified airport wildlife biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan (14 CFR 139.337 (f)(7))		
Certification that training meets requirements in AC 150/5200-36A		
Training participation documentation		

APPENDIX D: Airport Wildlife Hazard Continual Monitoring and Report Checklist

Upon completion and approval of an Assessment and Plan, airports can implement a continual monitoring program that will be outlined in their Plan and ACM. Continual monitoring is an ongoing assessment of wildlife hazards at an airport that results in an annual report. The annual report will include recommendations for wildlife hazard mitigation and data on the effectiveness of mitigation programs at the airport and seasonal trends of species behavior and utilization of the airport.

The following is a Checklist that can be utilized to insure a complete and detailed Continual Monitoring program. The checklist can also be used to review the monitoring protocol and report.

Airport Wildlife Hazard Continual Monitoring and Report Checklist

Airport Name:
Airport Representative:
Qualified Airport Wildlife Biologist:
Initial Assessment Dates (Initiation/Completion):
Continual Monitoring Dates (Initiation/Completion):

	Yes/No	Comments/Observations
Assessment Checklist		
General Airport Information Review		
Recent improvements, ALP or MP changes		
Strike records (database/airport records)		
Depredation permits (current?)		
Review of Plan		
Review of Habitat Management Activities		
Mowing		
Clearing ditches of vegetation		
Tree removal		
Other		
Review of Wildlife Management Activities		
Pyrotechnics		
Fencing		
Wildlife removal (lethal, trapping, etc.)		
Nest removal		
Other		
Identification and location of features on airport that attract wildlife		
Wetlands		
Ditches		
Agriculture		
Stormwater Treatment Areas		
Forested/Shrub Areas		
Abandoned Structures		
Construction Sites/Debris		

Airport Wildlife Hazard Continual Monitoring and Report Checklist (page 2)

	Yes/No	Comments/Observations
Identification and location of features near airport (within 5 miles) that attract wildlife		
Wetlands		
Ditches		
Agriculture		
Stormwater Treatment Areas		
Landfill		
Forested/Shrub Areas		
Golf Courses		
Other		
Identification of wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences		
Minimum of 12 months data collection		
Locate standardized observation points on airport (observation points off airport are optional) to adequately observe wildlife and their movements on all parts of AOA. Use points established during initial Assessment is recommended		
Point count surveys conducted morning, midday and evening (unless Assessment, strike data, or monitoring data justifies the elimination of a survey time period)		
Avian surveys conducted a minimum of **once** monthly		
Mammal surveys conducted once a month for airports with documented hazardous terrestrial mammals **OR....**		
Mammal surveys conducted quarterly for airports without recognized terrestrial mammal hazards		
Record results of point count surveys and all general wildlife observations (including wildlife sign)		
Small mammal trapping (optional)		
Record presence of state and/or federally listed species		

Airport Wildlife Hazard Continual Monitoring and Report Checklist (page 3)

	Yes/No	Comments/Observations
Report Checklist		
General airport information (refer to General Airport Information Review section at beginning of appendix)		
Identification and location of features on and near the airport that attract wildlife		
Description of habitat features (natural and man-made) that may attract wildlife on and near the airport		
Map of airport with location of wildlife attractants on airport property		
Map of airport with location of wildlife attractants near airport (within 5,000 ft, 10,000 ft, and 5 miles).		
Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences		
Description of avian and mammal survey methodologies (minimum survey methodologies described above)		
List and description of bird/mammal species observed		
State and federal status of species		
Map of airport with location of observation points		
Description of the wildlife hazards to air carrier operations		
List the wildlife hazards that have been observed that are unique to this airport		
Description of wildlife strikes during the year and table depicting strike data		
Summary of ATC and airport records including wildlife observations, patrol, control, and monitoring		
Summary of Federal/State depredation permit use; special permit use (Eagle Disturbance or Nest Removal permits		

Airport Wildlife Hazard Continual Monitoring and Report Checklist (page 4)

Recommended actions for reducing identified wildlife hazards to air carrier operations		
Recommendation regarding whether or not modifications should be made to existing Plan		

*Recommendations can include (but are not limited to) the following:

- Clearing vegetation in ditches to improve drainage and reduce nesting habitat
- Mowing grass to recommended heights
- Tree removal inside the perimeter fence
- Repair breaches in perimeter fence when observed; keep vegetation maintained along fencing
- Install perching deterrents on signs and lights
- Use pyrotechnics to disperse hazardous wildlife
- Trap and remove hazardous mammal species (beavers, feral hogs, etc.)

APPENDIX E: PROCUREMENT OF AIRPORT WILDLIFE BIOLOGISTS

This Appendix contains information about qualified airport wildlife biologists for the conduct of Wildlife Hazard Assessment (and Related Services) procurement.

1. Procurement Method: Airports must use the competitive proposal method as defined in 49 CFR §18.36 (d)(3) when procuring airport wildlife biologists for AIP-funded procurements.

2. Required Federal Contract Provisions. The procurements must follow all other procurement and contracting requirements for AIP projects, including all required federal contract provisions.

3. Proposal Contents. The proposals from the vendors must contain the following information:

   a. Relevant references and evidence of experience in assessing and managing wildlife hazards.

   b. A Statement of Qualifications (SOQ) that includes the documentation verifying the Qualified Airport Wildlife Biologist conducting the WHA meets the requirements of AC 150/5200-36A as described in Section B (above). Sponsors MAY require:

      1. Copies of college transcripts,
      2. Copies of certificates of training/attendance at approved courses and/or Bird Strike Committee meetings,
      3. Letter from FAA approving initial WHA
      4. Letter from qualified mentor

   c. Project Experience, including descriptions of previous airport projects and references.

   d. Firm's Organizational Chart. The organizational chart with the key personnel who will be working on the project along with their resumes and estimated percentage of time each person will have available to spend on the project should be submitted.

   e. Vendors must submit a detailed Statement of Project Approach describing the work to be conducted to the sponsor for review prior to beginning the WHA. The project approach should demonstrate an understanding of the project and should include, in detail, how the Qualified Airport Wildlife Biologist intends to meet the minimum requirements detailed in Section 2.5 of this AC.

APPENDIX F. BIRD SURVEY DATA SHEET EXAMPLE

AIRPORT OBSERVATION SHEET

AIRPORT NAME OBSERVER SURVEY PERIOD DATE

TIME TEMPERATURE WIND DIR / SPEED WEATHER SUNRISE SUNSET

TIME	PT	LOC	SPP	#	ACT	COV	DIR	COMMENTS

SU - sunny
PS - partly sunny
CL - cloudy
RN - rain
SN - snow/sleet
FG - fog
PC - partly cloudy

FD - feeding
LF - loafing
RS- roosting
NS - nesting
VO - vocalizing
FL - flying local
FP - flying passing

RN – running
BD - bedded
P – perched
ST – standing
TW- towering
HW - hawking
SW- swimming

RWY - runway
TWY - taxiway
RMP - ramp
ASP - asphalt
UNP - unpaved road
STR - structure
DTC - ditch

PND - pond
RES - reservoir
RIV - river
WDL – woodland
MAR - marsh/wetland
CRK - creek/stream
TSW - temp standing water
TR - single/sm group of trees

GSH grass, short
GLG - grass, long
SHB - shrubs
GRV - gravel
AGF - ag field
SHR - shoreline

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U.S. Department
of Transportation

Federal Aviation Administration

Advisory Circular

Subject: HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS	**Date:** 8/28/2007	**AC No:** 150/5200-33B
	Initiated by: AAS-300	**Change:**

1. PURPOSE. This Advisory Circular (AC) provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. Appendix 1 provides definitions of terms used in this AC.

2. APPLICABILITY. The Federal Aviation Administration (FAA) recommends that public-use airport operators implement the standards and practices contained in this AC. The holders of Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D (Part 139), may use the standards, practices, and recommendations contained in this AC to comply with the wildlife hazard management requirements of Part 139. Airports that have received Federal grant-in-aid assistance must use these standards. The FAA also recommends the guidance in this AC for land-use planners, operators of non-certificated airports, and developers of projects, facilities, and activities on or near airports.

3. CANCELLATION. This AC cancels AC 150/5200-33A, *Hazardous Wildlife Attractants on or near Airports*, dated July 27, 2004.

4. PRINCIPAL CHANGES. This AC contains the following major changes, which are marked with vertical bars in the margin:

a. Technical changes to paragraph references.

b. Wording on storm water detention ponds.

c. Deleted paragraph 4-3.b, *Additional Coordination.*

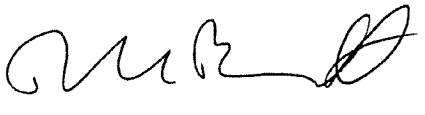
5. BACKGROUND. Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a threat to aircraft safety, they are not equally hazardous. Table 1

ranks the wildlife groups commonly involved in damaging strikes in the United States according to their relative hazard to aircraft. The ranking is based on the 47,212 records in the FAA National Wildlife Strike Database for the years 1990 through 2003. These hazard rankings, in conjunction with site-specific Wildlife Hazards Assessments (WHA), will help airport operators determine the relative abundance and use patterns of wildlife species and help focus hazardous wildlife management efforts on those species most likely to cause problems at an airport.

Most public-use airports have large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas can also present potential hazards to aviation if they encourage wildlife to enter an airport's approach or departure airspace or air operations area (AOA). Constructed or natural areas—such as poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter (putrescible waste) disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, or wetlands—can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. Even small facilities, such as fast food restaurants, taxicab staging areas, rental car facilities, aircraft viewing areas, and public parks, can produce substantial attractions for hazardous wildlife.

During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars in aircraft damage. Hazardous wildlife attractants on and near airports can jeopardize future airport expansion, making proper community land-use planning essential. This AC provides airport operators and those parties with whom they cooperate with the guidance they need to assess and address potentially hazardous wildlife attractants when locating new facilities and implementing certain land-use practices on or near public-use airports.

6. MEMORANDUM OF AGREEMENT BETWEEN FEDERAL RESOURCE AGENCIES. The FAA, the U.S. Air Force, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture - Wildlife Services signed a Memorandum of Agreement (MOA) in July 2003 to acknowledge their respective missions in protecting aviation from wildlife hazards. Through the MOA, the agencies established procedures necessary to coordinate their missions to address more effectively existing and future environmental conditions contributing to collisions between wildlife and aircraft (wildlife strikes) throughout the United States. These efforts are intended to minimize wildlife risks to aviation and human safety while protecting the Nation's valuable environmental resources.



DAVID L. BENNETT
Director, Office of Airport Safety
and Standards

Table 1. Ranking of 25 species groups as to relative hazard to aircraft (1=most hazardous) based on three criteria (damage, major damage, and effect-on-flight), a composite ranking based on all three rankings, and a relative hazard score. Data were derived from the FAA National Wildlife Strike Database, January 1990–April 2003.[1]

Species group	Ranking by criteria			Composite ranking[2]	Relative hazard score[3]
	Damage[4]	Major damage[5]	Effect on flight[6]		
Deer	1	1	1	1	100
Vultures	2	2	2	2	64
Geese	3	3	6	3	55
Cormorants/pelicans	4	5	3	4	54
Cranes	7	6	4	5	47
Eagles	6	9	7	6	41
Ducks	5	8	10	7	39
Osprey	8	4	8	8	39
Turkey/pheasants	9	7	11	9	33
Herons	11	14	9	10	27
Hawks (buteos)	10	12	12	11	25
Gulls	12	11	13	12	24
Rock pigeon	13	10	14	13	23
Owls	14	13	20	14	23
H. lark/s. bunting	18	15	15	15	17
Crows/ravens	15	16	16	16	16
Coyote	16	19	5	17	14
Mourning dove	17	17	17	18	14
Shorebirds	19	21	18	19	10
Blackbirds/starling	20	22	19	20	10
American kestrel	21	18	21	21	9
Meadowlarks	22	20	22	22	7
Swallows	24	23	24	23	4
Sparrows	25	24	23	24	4
Nighthawks	23	25	25	25	1

[1] Excerpted from the *Special Report for the FAA, "Ranking the Hazard Level of Wildlife Species to Civil Aviation in the USA: Update #1, July 2, 2003".* Refer to this report for additional explanations of criteria and method of ranking.

[2] Relative rank of each species group was compared with every other group for the three variables, placing the species group with the greatest hazard rank for $\geq$ 2 of the 3 variables above the next highest ranked group, then proceeding down the list.

[3] Percentage values, from Tables 3 and 4 in Footnote 1 of the *Special Report*, for the three criteria were summed and scaled down from 100, with 100 as the score for the species group with the maximum summed values and the greatest potential hazard to aircraft.

[4] Aircraft incurred at least some damage (destroyed, substantial, minor, or unknown) from strike.

[5] Aircraft incurred damage or structural failure, which adversely affected the structure strength, performance, or flight characteristics, and which would normally require major repair or replacement of the affected component, or the damage sustained makes it inadvisable to restore aircraft to airworthy condition.

[6] Aborted takeoff, engine shutdown, precautionary landing, or other.

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SECTION 1.

GENERAL SEPARATION CRITERIA FOR HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS.

1-1. INTRODUCTION. When considering proposed land uses, airport operators, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards. Land-use practices that attract or sustain hazardous wildlife populations on or near airports can significantly increase the potential for wildlife strikes.

The FAA recommends the minimum separation criteria outlined below for land-use practices that attract hazardous wildlife to the vicinity of airports. Please note that FAA criteria include land uses that cause movement of hazardous wildlife onto, into, or across the airport's approach or departure airspace or air operations area (AOA). (See the discussion of the synergistic effects of surrounding land uses in Section 2-8 of this AC.)

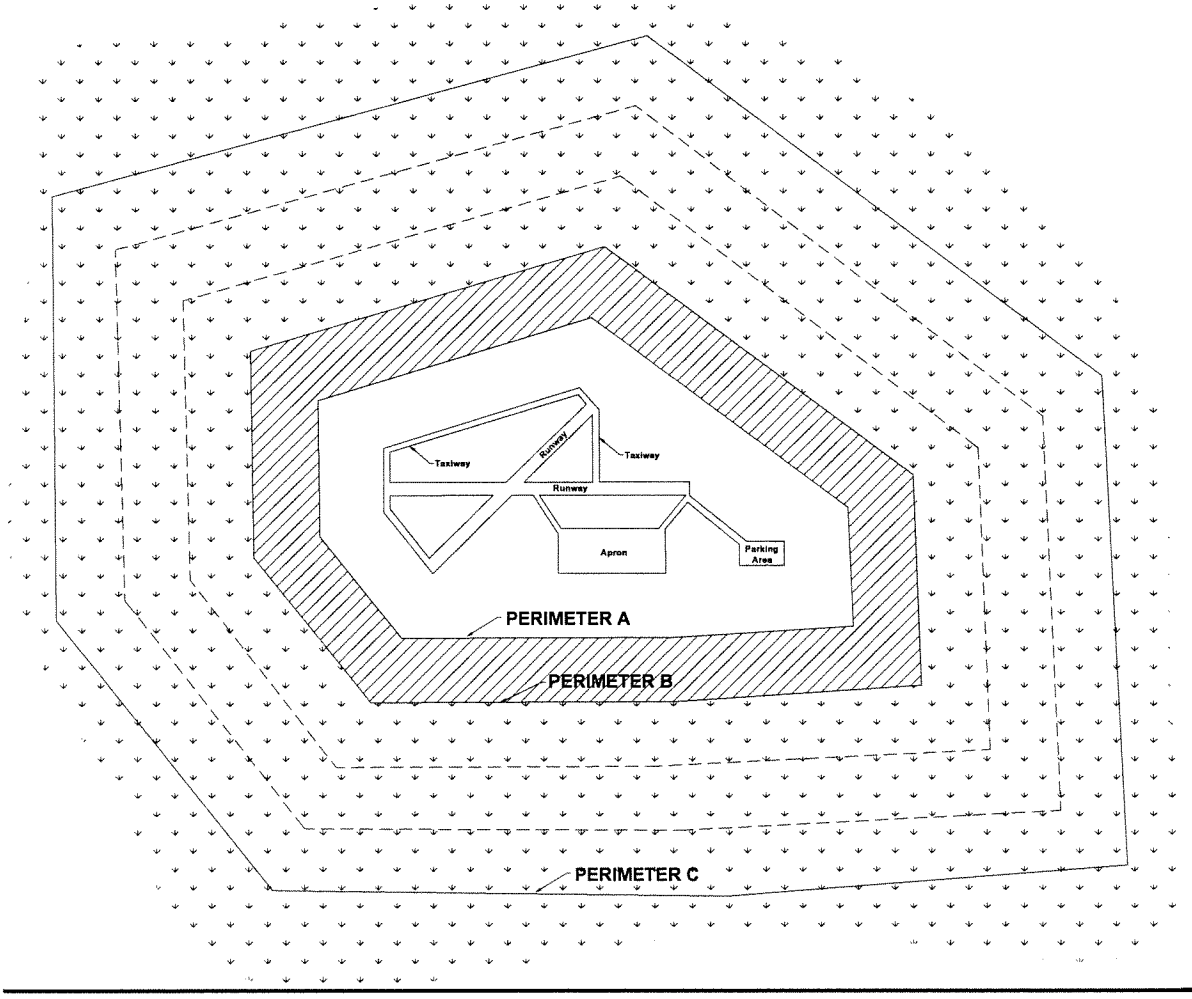
The basis for the separation criteria contained in this section can be found in existing FAA regulations. The separation distances are based on (1) flight patterns of piston-powered aircraft and turbine-powered aircraft, (2) the altitude at which most strikes happen (78 percent occur under 1,000 feet and 90 percent occur under 3,000 feet above ground level), and (3) National Transportation Safety Board (NTSB) recommendations.

1-2. AIRPORTS SERVING PISTON-POWERED AIRCRAFT. Airports that do not sell Jet-A fuel normally serve piston-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 5,000 feet at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport's AOA and the hazardous wildlife attractant. Figure 1 depicts this separation distance measured from the nearest aircraft operations areas.

1-3. AIRPORTS SERVING TURBINE-POWERED AIRCRAFT. Airports selling Jet-A fuel normally serve turbine-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 10,000 feet at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport's AOA and the hazardous wildlife attractant. Figure 1 depicts this separation distance from the nearest aircraft movement areas.

1-4. PROTECTION OF APPROACH, DEPARTURE, AND CIRCLING AIRSPACE. For all airports, the FAA recommends a distance of 5 statute miles between the farthest edge of the airport's AOA and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.

Figure 1. Separation distances within which hazardous wildlife attractants should be avoided, eliminated, or mitigated.



PERIMETER A: For airports serving piston-powered aircraft, hazardous wildlife attractants must be 5,000 feet from the nearest air operations area.

PERIMETER B: For airports serving turbine-powered aircraft, hazardous wildlife attractants must be 10,000 feet from the nearest air operations area.

PERIMETER C: 5-mile range to protect approach, departure and circling airspace.

SECTION 2.

LAND-USE PRACTICES ON OR NEAR AIRPORTS THAT POTENTIALLY ATTRACT HAZARDOUS WILDLIFE.

2-1. GENERAL. The wildlife species and the size of the populations attracted to the airport environment vary considerably, depending on several factors, including land-use practices on or near the airport. This section discusses land-use practices having the potential to attract hazardous wildlife and threaten aviation safety. In addition to the specific considerations outlined below, airport operators should refer to *Wildlife Hazard Management at Airports,* prepared by FAA and U.S. Department of Agriculture (USDA) staff. (This manual is available in English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: http://wildlife-mitigation.tc.FAA.gov.). And, *Prevention and Control of Wildlife Damage,* compiled by the University of Nebraska Cooperative Extension Division. (This manual is available online in a periodically updated version at: ianrwww.unl.edu/wildlife/solutions/handbook/.)

2-2. WASTE DISPOSAL OPERATIONS. Municipal solid waste landfills (MSWLF) are known to attract large numbers of hazardous wildlife, particularly birds. Because of this, these operations, when located within the separations identified in the siting criteria in Sections 1-2 through 1-4, are considered incompatible with safe airport operations.

a. **Siting for new municipal solid waste landfills subject to AIR 21.** Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Public Law 106-181) (AIR 21) prohibits the construction or establishment of a new MSWLF within 6 statute miles of certain public-use airports. Before these prohibitions apply, both the airport and the landfill must meet the very specific conditions described below. These restrictions do not apply to airports or landfills located within the state of Alaska.

   The airport must (1) have received a Federal grant(s) under 49 U.S.C. § 47101, et. seq.; (2) be under control of a public agency; (3) serve some scheduled air carrier operations conducted in aircraft with less than 60 seats; and (4) have total annual enplanements consisting of at least 51 percent of scheduled air carrier enplanements conducted in aircraft with less than 60 passenger seats.

   The proposed MSWLF must (1) be within 6 miles of the airport, as measured from airport property line to MSWLF property line, and (2) have started construction or establishment on or after April 5, 2001. Public Law 106-181 only limits the construction or establishment of some new MSWLF. It does not limit the expansion, either vertical or horizontal, of existing landfills.

   NOTE: Consult the most recent version of AC 150/5200-34, *Construction or Establishment of Landfills Near Public Airports,* for a more detailed discussion of these restrictions.

b. **Siting for new MSWLF not subject to AIR 21.** If an airport and MSWLF do not meet the restrictions of Public Law 106-181, the FAA recommends against locating MSWLF within the separation distances identified in Sections 1-2 through 1-4. The separation distances should be measured from the closest point of the airport's AOA to the closest planned MSWLF cell.

c. **Considerations for existing waste disposal facilities within the limits of separation criteria.** The FAA recommends against airport development projects that would increase the number of aircraft operations or accommodate larger or faster aircraft near MSWLF operations located within the separations identified in Sections 1-2 through 1-4. In addition, in accordance with 40 CFR 258.10, owners or operators of existing MSWLF units that are located within the separations listed in Sections 1-2 through 1-4 must demonstrate that the unit is designed and operated so it does not pose a bird hazard to aircraft. (See Section 4-2(b) of this AC for a discussion of this demonstration requirement.)

d. **Enclosed trash transfer stations.** Enclosed waste-handling facilities that receive garbage behind closed doors; process it via compaction, incineration, or similar manner; and remove all residue by enclosed vehicles generally are compatible with safe airport operations, provided they are not located on airport property or within the Runway Protection Zone (RPZ). These facilities should not handle or store putrescible waste outside or in a partially enclosed structure accessible to hazardous wildlife. Trash transfer facilities that are open on one or more sides; that store uncovered quantities of municipal solid waste outside, even if only for a short time; that use semi-trailers that leak or have trash clinging to the outside; or that do not control odors by ventilation and filtration systems (odor masking is not acceptable) do not meet the FAA's definition of fully enclosed trash transfer stations. The FAA considers these facilities incompatible with safe airport operations if they are located closer than the separation distances specified in Sections 1-2 through 1-4.

e. **Composting operations on or near airport property.** Composting operations that accept only yard waste (e.g., leaves, lawn clippings, or branches) generally do not attract hazardous wildlife. Sewage sludge, woodchips, and similar material are not municipal solid wastes and may be used as compost bulking agents. The compost, however, must never include food or other municipal solid waste. Composting operations should not be located on airport property. Off-airport property composting operations should be located no closer than the greater of the following distances: 1,200 feet from any AOA or the distance called for by airport design requirements (see AC 150/5300-13, *Airport Design*). This spacing should prevent material, personnel, or equipment from penetrating any Object Free Area (OFA), Obstacle Free Zone (OFZ), Threshold Siting Surface (TSS), or Clearway. Airport operators should monitor composting operations located in proximity to the airport to ensure that steam or thermal rise does not adversely affect air traffic. On-airport disposal of compost by-products should not be conducted for the reasons stated in 2-3f.

f. **Underwater waste discharges.** The FAA recommends against the underwater discharge of any food waste (e.g., fish processing offal) within the separations identified in Sections 1-2 through 1-4 because it could attract scavenging hazardous wildlife.

g. **Recycling centers.** Recycling centers that accept previously sorted non-food items, such as glass, newspaper, cardboard, or aluminum, are, in most cases, not attractive to hazardous wildlife and are acceptable.

h. **Construction and demolition (C&D) debris facilities.** C&D landfills do not generally attract hazardous wildlife and are acceptable if maintained in an orderly manner, admit no putrescible waste, and are not co-located with other waste disposal operations. However, C&D landfills have similar visual and operational characteristics to putrescible waste disposal sites. When co-located with putrescible waste disposal operations, C&D landfills are more likely to attract hazardous wildlife because of the similarities between these disposal facilities. Therefore, a C&D landfill co-located with another waste disposal operation should be located outside of the separations identified in Sections 1-2 through 1-4.

i. **Fly ash disposal.** The incinerated residue from resource recovery power/heat-generating facilities that are fired by municipal solid waste, coal, or wood is generally not a wildlife attractant because it no longer contains putrescible matter. Landfills accepting only fly ash are generally not considered to be wildlife attractants and are acceptable as long as they are maintained in an orderly manner, admit no putrescible waste of any kind, and are not co-located with other disposal operations that attract hazardous wildlife.

   Since varying degrees of waste consumption are associated with general incineration (not resource recovery power/heat-generating facilities), the FAA considers the ash from general incinerators a regular waste disposal by-product and, therefore, a hazardous wildlife attractant if disposed of within the separation criteria outlined in Sections 1-2 through 1-4.

2-3. WATER MANAGEMENT FACILITIES. Drinking water intake and treatment facilities, storm water and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. To prevent wildlife hazards, land-use developers and airport operators may need to develop management plans, in compliance with local and state regulations, to support the operation of storm water management facilities on or near all public-use airports to ensure a safe airport environment.

a. **Existing storm water management facilities.** On-airport storm water management facilities allow the quick removal of surface water, including discharges related to aircraft deicing, from impervious surfaces, such as pavement and terminal/hangar building roofs. Existing on-airport detention ponds collect storm water, protect water quality, and control runoff. Because they slowly release water

after storms, they create standing bodies of water that can attract hazardous wildlife. Where the airport has developed a Wildlife Hazard Management Plan (WHMP) in accordance with Part 139, the FAA requires immediate correction of any wildlife hazards arising from existing storm water facilities located on or near airports, using appropriate wildlife hazard mitigation techniques. Airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.

Where possible, airport operators should modify storm water detention ponds to allow a maximum 48-hour detention period for the design storm. The FAA recommends that airport operators avoid or remove retention ponds and detention ponds featuring dead storage to eliminate standing water. Detention basins should remain totally dry between rainfalls. Where constant flow of water is anticipated through the basin, or where any portion of the basin bottom may remain wet, the detention facility should include a concrete or paved pad and/or ditch/swale in the bottom to prevent vegetation that may provide nesting habitat.

When it is not possible to drain a large detention pond completely, airport operators may use physical barriers, such as bird balls, wires grids, pillows, or netting, to deter birds and other hazardous wildlife. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office.

The FAA recommends that airport operators encourage off-airport storm water treatment facility operators to incorporate appropriate wildlife hazard mitigation techniques into storm water treatment facility operating practices when their facility is located within the separation criteria specified in Sections 1-2 through 1-4.

b. New storm water management facilities. The FAA strongly recommends that off-airport storm water management systems located within the separations identified in Sections 1-2 through 1-4 be designed and operated so as not to create above-ground standing water. Stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48–hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird balls, wires grids, pillows, or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages

the use of underground storm water infiltration systems, such as French drains or buried rock fields, because they are less attractive to wildlife.

c. **Existing wastewater treatment facilities.** The FAA strongly recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport. Where required, a WHMP developed in accordance with Part 139 will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a wildlife damage management biologist, to minimize hazardous wildlife attractants. Airport operators should also encourage those wastewater treatment facility operators to incorporate these mitigation techniques into their standard operating practices. In addition, airport operators should consider the existence of wastewater treatment facilities when evaluating proposed sites for new airport development projects and avoid such sites when practicable.

d. **New wastewater treatment facilities.** The FAA strongly recommends against the construction of new wastewater treatment facilities or associated settling ponds within the separations identified in Sections 1-2 through 1-4. Appendix 1 defines wastewater treatment facility as "any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes." The definition includes any pretreatment involving the reduction of the amount of pollutants or the elimination of pollutants prior to introducing such pollutants into a publicly owned treatment works (wastewater treatment facility). During the site-location analysis for wastewater treatment facilities, developers should consider the potential to attract hazardous wildlife if an airport is in the vicinity of the proposed site, and airport operators should voice their opposition to such facilities if they are in proximity to the airport.

e. **Artificial marshes.** In warmer climates, wastewater treatment facilities sometimes employ artificial marshes and use submergent and emergent aquatic vegetation as natural filters. These artificial marshes may be used by some species of flocking birds, such as blackbirds and waterfowl, for breeding or roosting activities. The FAA strongly recommends against establishing artificial marshes within the separations identified in Sections 1-2 through 1-4.

f. **Wastewater discharge and sludge disposal.** The FAA recommends against the discharge of wastewater or sludge on airport property because it may improve soil moisture and quality on unpaved areas and lead to improved turf growth that can be an attractive food source for many species of animals. Also, the turf requires more frequent mowing, which in turn may mutilate or flush insects or small animals and produce straw, both of which can attract hazardous wildlife. In addition, the improved turf may attract grazing wildlife, such as deer and geese. Problems may also occur when discharges saturate unpaved airport areas. The resultant soft, muddy conditions can severely restrict or prevent emergency vehicles from reaching accident sites in a timely manner.

2-4. WETLANDS. Wetlands provide a variety of functions and can be regulated by local, state, and Federal laws. Normally, wetlands are attractive to many types of wildlife, including many which rank high on the list of hazardous wildlife species (Table 1).

NOTE: If questions exist as to whether an area qualifies as a wetland, contact the local division of the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, or a wetland consultant qualified to delineate wetlands.

a. **Existing wetlands on or near airport property.** If wetlands are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. At public-use airports, the FAA recommends immediately correcting, in cooperation with local, state, and Federal regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports. Where required, a WHMP will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.

b. **New airport development.** Whenever possible, the FAA recommends locating new airports using the separations from wetlands identified in Sections 1-2 through 1-4. Where alternative sites are not practicable, or when airport operators are expanding an existing airport into or near wetlands, a wildlife damage management biologist, in consultation with the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the state wildlife management agency should evaluate the wildlife hazards and prepare a WHMP that indicates methods of minimizing the hazards.

c. **Mitigation for wetland impacts from airport projects.** Wetland mitigation may be necessary when unavoidable wetland disturbances result from new airport development projects or projects required to correct wildlife hazards from wetlands. Wetland mitigation must be designed so it does not create a wildlife hazard. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Sections 1-2 through 1-4.

   (1) Onsite mitigation of wetland functions. The FAA may consider exceptions to locating mitigation activities outside the separations identified in Sections 1-2 through 1-4 if the affected wetlands provide unique ecological functions, such as critical habitat for threatened or endangered species or ground water recharge, which cannot be replicated when moved to a different location. Using existing airport property is sometimes the only feasible way to achieve the mitigation ratios mandated in regulatory orders and/or settlement agreements with the resource agencies. Conservation easements are an additional means of providing mitigation for project impacts. Typically the airport operator continues to own the property, and an easement is created stipulating that the property will be maintained as habitat for state or Federally listed species.

Mitigation must not inhibit the airport operator's ability to effectively control hazardous wildlife on or near the mitigation site or effectively maintain other aspects of safe airport operations. Enhancing such mitigation areas to attract hazardous wildlife must be avoided. The FAA will review any onsite mitigation proposals to determine compatibility with safe airport operations. A wildlife damage management biologist should evaluate any wetland mitigation projects that are needed to protect unique wetland functions and that must be located in the separation criteria in Sections 1-2 through 1-4 before the mitigation is implemented. A WHMP should be developed to reduce the wildlife hazards.

(2) Offsite mitigation of wetland functions. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Sections 1-2 through 1-4 unless they provide unique functions that must remain onsite (see 2-4c(1)). Agencies that regulate impacts to or around wetlands recognize that it may be necessary to split wetland functions in mitigation schemes. Therefore, regulatory agencies may, under certain circumstances, allow portions of mitigation to take place in different locations.

(3) Mitigation banking. Wetland mitigation banking is the creation or restoration of wetlands in order to provide mitigation credits that can be used to offset permitted wetland losses. Mitigation banking benefits wetland resources by providing advance replacement for permitted wetland losses; consolidating small projects into larger, better-designed and managed units; and encouraging integration of wetland mitigation projects with watershed planning. This last benefit is most helpful for airport projects, as wetland impacts mitigated outside of the separations identified in Sections 1-2 through 1-4 can still be located within the same watershed. Wetland mitigation banks meeting the separation criteria offer an ecologically sound approach to mitigation in these situations. Airport operators should work with local watershed management agencies or organizations to develop mitigation banking for wetland impacts on airport property.

2-5. DREDGE SPOIL CONTAINMENT AREAS. The FAA recommends against locating dredge spoil containment areas (also known as Confined Disposal Facilities) within the separations identified in Sections 1-2 through 1-4 if the containment area or the spoils contain material that would attract hazardous wildlife.

2-6. AGRICULTURAL ACTIVITIES. Because most, if not all, agricultural crops can attract hazardous wildlife during some phase of production, the FAA recommends against the used of airport property for agricultural production, including hay crops, within the separations identified in Sections 1-2 through 1-4. . If the airport has no financial alternative to agricultural crops to produce income necessary to maintain the viability of the airport, then the airport shall follow the crop distance guidelines listed in the table titled "Minimum Distances between Certain Airport Features and Any On-Airport Agricultural Crops" found in AC 150/5300-13, *Airport Design*, Appendix 17. The cost of wildlife control and potential accidents should be weighed against the income produced by the on-airport crops when deciding whether to allow crops on the airport.

a. **Livestock production.** Confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg laying operations) often attract flocking birds, such as starlings, that pose a hazard to aviation. Therefore, The FAA recommends against such facilities within the separations identified in Sections 1-2 through 1-4. Any livestock operation within these separations should have a program developed to reduce the attractiveness of the site to species that are hazardous to aviation safety. Free-ranging livestock must not be grazed on airport property because the animals may wander onto the AOA. Furthermore, livestock feed, water, and manure may attract birds.

b. **Aquaculture.** Aquaculture activities (i.e. catfish or trout production) conducted outside of fully enclosed buildings are inherently attractive to a wide variety of birds. Existing aquaculture facilities/activities within the separations listed in Sections 1-2 through 1-4 must have a program developed to reduce the attractiveness of the sites to species that are hazardous to aviation safety. Airport operators should also oppose the establishment of new aquaculture facilities/activities within the separations listed in Sections 1-2 through 1-4.

c. **Alternative uses of agricultural land.** Some airports are surrounded by vast areas of farmed land within the distances specified in Sections 1-2 through 1-4. Seasonal uses of agricultural land for activities such as hunting can create a hazardous wildlife situation. In some areas, farmers will rent their land for hunting purposes. Rice farmers, for example, flood their land during waterfowl hunting season and obtain additional revenue by renting out duck blinds. The duck hunters then use decoys and call in hundreds, if not thousands, of birds, creating a tremendous threat to aircraft safety. A wildlife damage management biologist should review, in coordination with local farmers and producers, these types of seasonal land uses and incorporate them into the WHMP.

2-7. GOLF COURSES, LANDSCAPING AND OTHER LAND-USE CONSIDERATIONS.

a. **Golf courses.** The large grassy areas and open water found on most golf courses are attractive to hazardous wildlife, particularly Canada geese and some species of gulls. These species can pose a threat to aviation safety. The FAA recommends against construction of new golf courses within the separations identified in Sections 1-2 through 1-4. Existing golf courses located within these separations must develop a program to reduce the attractiveness of the sites to species that are hazardous to aviation safety. Airport operators should ensure these golf courses are monitored on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

b. **Landscaping and landscape maintenance.** Depending on its geographic location, landscaping can attract hazardous wildlife. The FAA recommends that airport operators approach landscaping with caution and confine it to airport areas not associated with aircraft movements. A wildlife damage management biologist should review all landscaping plans. Airport operators should also monitor all landscaped areas on a continuing basis for the presence of hazardous wildlife. If

hazardous wildlife is detected, corrective actions should be immediately implemented.

Turf grass areas can be highly attractive to a variety of hazardous wildlife species. Research conducted by the USDA Wildlife Services' National Wildlife Research Center has shown that no one grass management regime will deter all species of hazardous wildlife in all situations. In cooperation with wildlife damage management biologist, airport operators should develop airport turf grass management plans on a prescription basis, depending on the airport's geographic locations and the type of hazardous wildlife likely to frequent the airport

Airport operators should ensure that plant varieties attractive to hazardous wildlife are not used on the airport. Disturbed areas or areas in need of re-vegetating should not be planted with seed mixtures containing millet or any other large-seed producing grass. For airport property already planted with seed mixtures containing millet, rye grass, or other large-seed producing grasses, the FAA recommends disking, plowing, or another suitable agricultural practice to prevent plant maturation and seed head production. Plantings should follow the specific recommendations for grass management and seed and plant selection made by the State University Cooperative Extension Service, the local office of Wildlife Services, or a qualified wildlife damage management biologist. Airport operators should also consider developing and implementing a preferred/prohibited plant species list, reviewed by a wildlife damage management biologist, which has been designed for the geographic location to reduce the attractiveness to hazardous wildlife for landscaping airport property.

c. **Airports surrounded by wildlife habitat.** The FAA recommends that operators of airports surrounded by woodlands, water, or wetlands refer to Section 2.4 of this AC. Operators of such airports should provide for a Wildlife Hazard Assessment (WHA) conducted by a wildlife damage management biologist. This WHA is the first step in preparing a WHMP, where required.

d. **Other hazardous wildlife attractants.** Other specific land uses or activities (e.g., sport or commercial fishing, shellfish harvesting, etc.), perhaps unique to certain regions of the country, have the potential to attract hazardous wildlife. Regardless of the source of the attraction, when hazardous wildlife is noted on a public-use airport, airport operators must take prompt remedial action(s) to protect aviation safety.

2-8. SYNERGISTIC EFFECTS OF SURROUNDING LAND USES. There may be circumstances where two (or more) different land uses that would not, by themselves, be considered hazardous wildlife attractants or that are located outside of the separations identified in Sections 1-2 through 1-4 that are in such an alignment with the airport as to create a wildlife corridor directly through the airport and/or surrounding airspace. An example of this situation may involve a lake located outside of the separation criteria on the east side of an airport and a large hayfield on the west side of an airport, land uses that together could create a flyway for Canada geese directly across the airspace of the airport. There are numerous examples of such situations;

therefore, airport operators and the wildlife damage management biologist must consider the entire surrounding landscape and community when developing the WHMP.

SECTION 3.

PROCEDURES FOR WILDLIFE HAZARD MANAGEMENT BY OPERATORS OF PUBLIC-USE AIRPORTS.

3.1. INTRODUCTION. In recognition of the increased risk of serious aircraft damage or the loss of human life that can result from a wildlife strike, the FAA may require the development of a Wildlife Hazard Management Plan (WHMP) when specific triggering events occur on or near the airport. Part 139.337 discusses the specific events that trigger a Wildlife Hazard Assessment (WHA) and the specific issues that a WHMP must address for FAA approval and inclusion in an Airport Certification Manual.

3.2. COORDINATION WITH USDA WILDLIFE SERVICES OR OTHER QUALIFIED WILDLIFE DAMAGE MANAGEMENT BIOLOGISTS. The FAA will use the Wildlife Hazard Assessment (WHA) conducted in accordance with Part 139 to determine if the airport needs a WHMP. Therefore, persons having the education, training, and expertise necessary to assess wildlife hazards must conduct the WHA. The airport operator may look to Wildlife Services or to qualified private consultants to conduct the WHA. When the services of a wildlife damage management biologist are required, the FAA recommends that land-use developers or airport operators contact a consultant specializing in wildlife damage management or the appropriate state director of Wildlife Services.

NOTE: Telephone numbers for the respective USDA Wildlife Services state offices can be obtained by contacting USDA Wildlife Services Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD, 20737-1234, Telephone (301) 734-7921, Fax (301) 734-5157 *(http://www.aphis.usda.gov/ws/)*.

3-3. WILDLIFE HAZARD MANAGEMENT AT AIRPORTS: A MANUAL FOR AIRPORT PERSONNEL. This manual, prepared by FAA and USDA Wildlife Services staff, contains a compilation of information to assist airport personnel in the development, implementation, and evaluation of WHMPs at airports. The manual includes specific information on the nature of wildlife strikes, legal authority, regulations, wildlife management techniques, WHAs, WHMPs, and sources of help and information. The manual is available in three languages: English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: http://wildlife-mitigation.tc.FAA.gov/. This manual only provides a starting point for addressing wildlife hazard issues at airports. Hazardous wildlife management is a complex discipline and conditions vary widely across the United States. Therefore, qualified wildlife damage management biologists must direct the development of a WHMP and the implementation of management actions by airport personnel.

There are many other resources complementary to this manual for use in developing and implementing WHMPs. Several are listed in the manual's bibliography.

3-4. WILDLIFE HAZARD ASSESSMENTS, TITLE 14, CODE OF FEDERAL REGULATIONS, PART 139. Part 139.337(b) requires airport operators to conduct a Wildlife Hazard Assessment (WHA) when certain events occur on or near the airport.

Part 139.337 (c) provides specific guidance as to what facts must be addressed in a WHA.

3-5. WILDLIFE HAZARD MANAGEMENT PLAN (WHMP). The FAA will consider the results of the WHA, along with the aeronautical activity at the airport and the views of the airport operator and airport users, in determining whether a formal WHMP is needed, in accordance with Part 139.337. If the FAA determines that a WHMP is needed, the airport operator must formulate and implement a WHMP, using the WHA as the basis for the plan.

The goal of an airport's Wildlife Hazard Management Plan is to minimize the risk to aviation safety, airport structures or equipment, or human health posed by populations of hazardous wildlife on and around the airport.

The WHMP must identify hazardous wildlife attractants on or near the airport and the appropriate wildlife damage management techniques to minimize the wildlife hazard. It must also prioritize the management measures.

3-6. LOCAL COORDINATION. The establishment of a Wildlife Hazards Working Group (WHWG) will facilitate the communication, cooperation, and coordination of the airport and its surrounding community necessary to ensure the effectiveness of the WHMP. The cooperation of the airport community is also necessary when new projects are considered. Whether on or off the airport, the input from all involved parties must be considered when a potentially hazardous wildlife attractant is being proposed. Airport operators should also incorporate public education activities with the local coordination efforts because some activities in the vicinity of your airport, while harmless under normal leisure conditions, can attract wildlife and present a danger to aircraft. For example, if public trails are planned near wetlands or in parks adjoining airport property, the public should know that feeding birds and other wildlife in the area may pose a risk to aircraft.

Airport operators should work with local and regional planning and zoning boards so as to be aware of proposed land-use changes, or modification of existing land uses, that could create hazardous wildlife attractants within the separations identified in Sections 1-2 through 1-4. Pay particular attention to proposed land uses involving creation or expansion of waste water treatment facilities, development of wetland mitigation sites, or development or expansion of dredge spoil containment areas. At the very least, airport operators must ensure they are on the notification list of the local planning board or equivalent review entity for all communities located within 5 miles of the airport, so they will receive notification of any proposed project and have the opportunity to review it for attractiveness to hazardous wildlife.

3-7 COORDINATION/NOTIFICATION OF AIRMEN OF WILDLIFE HAZARDS. If an existing land-use practice creates a wildlife hazard and the land-use practice or wildlife hazard cannot be immediately eliminated, airport operators must issue a Notice to Airmen (NOTAM) and encourage the land–owner or manager to take steps to control the wildlife hazard and minimize further attraction.

SECTION 4.

FAA NOTIFICATION AND REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS

4-1. FAA REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS.

a. The FAA discourages the development of waste disposal and other facilities, discussed in Section 2, located within the 5,000/10,000-foot criteria specified in Sections 1-2 through 1-4.

b. For projects that are located outside the 5,000/10,000-foot criteria but within 5 statute miles of the airport's AOA, the FAA may review development plans, proposed land-use changes, operational changes, or wetland mitigation plans to determine if such changes present potential wildlife hazards to aircraft operations. The FAA considers sensitive airport areas as those that lie under or next to approach or departure airspace. This brief examination should indicate if further investigation is warranted.

c. Where a wildlife damage management biologist has conducted a further study to evaluate a site's compatibility with airport operations, the FAA may use the study results to make a determination.

4-2. WASTE MANAGEMENT FACILITIES.

a. Notification of new/expanded project proposal. Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Public Law 106-181) limits the construction or establishment of new MSWLF within 6 statute miles of certain public-use airports, when both the airport and the landfill meet very specific conditions. See Section 2-2 of this AC and AC 150/5200-34 for a more detailed discussion of these restrictions.

The Environmental Protection Agency (EPA) requires any MSWLF operator proposing a new or expanded waste disposal operation within 5 statute miles of a runway end to notify the appropriate FAA Regional Airports Division Office and the airport operator of the proposal (40 CFR 258, *Criteria for Municipal Solid Waste Landfills*, Section 258.10, *Airport Safety*). The EPA also requires owners or operators of new MSWLF units, or lateral expansions of existing MSWLF units, that are located within 10,000 feet of any airport runway end used by turbojet aircraft, or within 5,000 feet of any airport runway end used only by piston-type aircraft, to demonstrate successfully that such units are not hazards to aircraft. (See 4-2.b below.)

When new or expanded MSWLF are being proposed near airports, MSWLF operators must notify the airport operator and the FAA of the proposal as early as possible pursuant to 40 CFR 258.

b. **Waste handling facilities within separations identified in Sections 1-2 through 1-4.** To claim successfully that a waste-handling facility sited within the separations identified in Sections 1-2 through 1-4 does not attract hazardous wildlife and does not threaten aviation, the developer must establish convincingly that the facility will not handle putrescible material other than that as outlined in 2-2.d. The FAA strongly recommends against any facility other than that as outlined in 2-2.d (enclosed transfer stations). The FAA will use this information to determine if the facility will be a hazard to aviation.

c. **Putrescible-Waste Facilities.** In their effort to satisfy the EPA requirement, some putrescible-waste facility proponents may offer to undertake experimental measures to demonstrate that their proposed facility will not be a hazard to aircraft. To date, no such facility has been able to demonstrate an ability to reduce and sustain hazardous wildlife to levels that existed before the putrescible-waste landfill began operating. For this reason, demonstrations of experimental wildlife control measures may not be conducted within the separation identified in Sections 1-2 through 1-4.

4-3. OTHER LAND-USE PRACTICE CHANGES. As a matter of policy, the FAA encourages operators of public-use airports who become aware of proposed land use practice changes that may attract hazardous wildlife within 5 statute miles of their airports to promptly notify the FAA. The FAA also encourages proponents of such land use changes to notify the FAA as early in the planning process as possible. Advanced notice affords the FAA an opportunity (1) to evaluate the effect of a particular land-use change on aviation safety and (2) to support efforts by the airport sponsor to restrict the use of land next to or near the airport to uses that are compatible with the airport.

The airport operator, project proponent, or land-use operator may use FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, or other suitable documents similar to FAA Form 7460-1 to notify the appropriate FAA Regional Airports Division Office. Project proponents can contact the appropriate FAA Regional Airports Division Office for assistance with the notification process.

It is helpful if the notification includes a 15-minute quadrangle map of the area identifying the location of the proposed activity. The land-use operator or project proponent should also forward specific details of the proposed land-use change or operational change or expansion. In the case of solid waste landfills, the information should include the type of waste to be handled, how the waste will be processed, and final disposal methods.

a. **Airports that have received Federal grant-in-aid assistance.** Airports that have received Federal grant-in-aid assistance are required by their grant assurances to take appropriate actions to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations. The FAA recommends that airport operators to the extent practicable oppose off-airport land-use changes or practices within the separations identified in Sections 1-2 through 1-4 that may attract hazardous wildlife. Failure to do so may lead to noncompliance with applicable grant assurances. The FAA will not approve the placement of airport

development projects pertaining to aircraft movement in the vicinity of hazardous wildlife attractants without appropriate mitigating measures. Increasing the intensity of wildlife control efforts is not a substitute for eliminating or reducing a proposed wildlife hazard. Airport operators should identify hazardous wildlife attractants and any associated wildlife hazards during any planning process for new airport development projects.

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APPENDIX 1. DEFINITIONS OF TERMS USED IN THIS ADVISORY CIRCULAR.

1. **GENERAL.** This appendix provides definitions of terms used throughout this AC.

    1. **Air operations area.** Any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft. An air operations area includes such paved areas or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiways, or apron.

    2. **Airport operator.** The operator (private or public) or sponsor of a public-use airport.

    3. **Approach or departure airspace.** The airspace, within 5 statute miles of an airport, through which aircraft move during landing or takeoff.

    4. **Bird balls.** High-density plastic floating balls that can be used to cover ponds and prevent birds from using the sites.

    5. **Certificate holder.** The holder of an Airport Operating Certificate issued under Title 14, Code of Federal Regulations, Part 139.

    6. **Construct a new MSWLF.** To begin to excavate, grade land, or raise structures to prepare a municipal solid waste landfill as permitted by the appropriate regulatory or permitting agency.

    7. **Detention ponds.** Storm water management ponds that hold storm water for short periods of time, a few hours to a few days.

    8. **Establish a new MSWLF.** When the first load of putrescible waste is received on-site for placement in a prepared municipal solid waste landfill.

    9. **Fly ash.** The fine, sand-like residue resulting from the complete incineration of an organic fuel source. Fly ash typically results from the combustion of coal or waste used to operate a power generating plant.

    10. **General aviation aircraft.** Any civil aviation aircraft not operating under 14 CFR Part 119, Certification: Air Carriers and Commercial Operators.

    11. **Hazardous wildlife.** Species of wildlife (birds, mammals, reptiles), including feral animals and domesticated animals not under control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard

    12. **Municipal Solid Waste Landfill (MSWLF).** A publicly or privately owned discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR § 257.2. An MSWLF may receive

other types wastes, such as commercial solid waste, non-hazardous sludge, small-quantity generator waste, and industrial solid waste, as defined under 40 CFR § 258.2. An MSWLF can consist of either a stand alone unit or several cells that receive household waste.

13. **New MSWLF.** A municipal solid waste landfill that was established or constructed after April 5, 2001.

14. **Piston-powered aircraft.** Fixed-wing aircraft powered by piston engines.

15. **Piston-use airport.** Any airport that does not sell Jet-A fuel for fixed-wing turbine-powered aircraft, and primarily serves fixed-wing, piston-powered aircraft. Incidental use of the airport by turbine-powered, fixed-wing aircraft would not affect this designation. However, such aircraft should not be based at the airport.

16. **Public agency.** A State or political subdivision of a State, a tax-supported organization, or an Indian tribe or pueblo (49 U.S.C. § 47102(19)).

17. **Public airport.** An airport used or intended to be used for public purposes that is under the control of a public agency; and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft is publicly owned (49 U.S.C. § 47102(20)).

18. **Public-use airport.** An airport used or intended to be used for public purposes, and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft may be under the control of a public agency or privately owned and used for public purposes (49 U.S.C. § 47102(21)).

19. **Putrescible waste.** Solid waste that contains organic matter capable of being decomposed by micro-organisms and of such a character and proportion as to be capable of attracting or providing food for birds (40 CFR §257.3-8).

20. **Putrescible-waste disposal operation.** Landfills, garbage dumps, underwater waste discharges, or similar facilities where activities include processing, burying, storing, or otherwise disposing of putrescible material, trash, and refuse.

21. **Retention ponds.** Storm water management ponds that hold water for several months.

22. **Runway protection zone (RPZ).** An area off the runway end to enhance the protection of people and property on the ground (see AC 150/5300-13). The dimensions of this zone vary with the airport design, aircraft, type of operation, and visibility minimum.

23. **Scheduled air carrier operation.** Any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial

operator for which the air carrier, commercial operator, or their representative offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation under 14 CFR Part 119 or as a public charter operation under 14 CFR Part 380 (14 CFR § 119.3).

24. **Sewage sludge.** Any solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. (40 CFR 257.2)

25. **Sludge.** Any solid, semi-solid, or liquid waste generated form a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. (40 CFR 257.2)

26. **Solid waste.** Any garbage, refuse, sludge, from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including, solid liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954, as amended, (68 Stat. 923). (40 CFR 257.2)

27. **Turbine-powered aircraft.** Aircraft powered by turbine engines including turbojets and turboprops but excluding turbo-shaft rotary-wing aircraft.

28. **Turbine-use airport.** Any airport that sells Jet-A fuel for fixed-wing turbine-powered aircraft.

29. **Wastewater treatment facility.** Any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes, including Publicly Owned Treatment Works (POTW), as defined by Section 212 of the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-576) and the Water Quality Act of 1987 (P.L. 100-4). This definition includes any pretreatment involving the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. (See 40 CFR Section 403.3 (q), (r), & (s)).

30. **Wildlife.** Any wild animal, including without limitation any wild mammal, bird, reptile, fish, amphibian, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, including any part, product, egg, or offspring thereof (50 CFR 10.12, *Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants*). As used in this AC, wildlife includes feral animals and domestic animals out of the control of their owners (14 CFR Part 139, Certification of Airports).

31. **Wildlife attractants.** Any human-made structure, land-use practice, or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace or the airport's AOA. These attractants can include architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquaculture activities, surface mining, or wetlands.

32. **Wildlife hazard.** A potential for a damaging aircraft collision with wildlife on or near an airport.

33. **Wildlife strike.** A wildlife strike is deemed to have occurred when:

    a. A pilot reports striking 1 or more birds or other wildlife;

    b. Aircraft maintenance personnel identify aircraft damage as having been caused by a wildlife strike;

    c. Personnel on the ground report seeing an aircraft strike 1 or more birds or other wildlife;

    d. Bird or other wildlife remains, whether in whole or in part, are found within 200 feet of a runway centerline, unless another reason for the animal's death is identified;

    e. The animal's presence on the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, aircraft left pavement area to avoid collision with animal) (Transport Canada, Airports Group, *Wildlife Control Procedures Manual*, Technical Publication 11500E, 1994).

2. RESERVED.

EXHIBIT D
Loomacre, Inc Proposal

LOOMACRES
Wildlife Management

Cody Listed as a Qualified Biologist on Embry Riddle Aeronautical University web site 4/24/14

April 15, 2014

Spencer Nebel
City Manager
City of Newport
169 SW Coast Highway
Newport, Oregon 97365

Dear Mr. Nebel,

It is with great pleasure that I introduce our company, Loomacres Wildlife Management Inc. Loomacres Wildlife was the first private company to be approved by the FAA to perform Wildlife Hazard Management services on airports. Since 2005 Loomacres Wildlife Management's primary mission has been to provide airports and municipalities with the highest quality of wildlife management consulting available. Loomacres Inc. was created by Airport Wildlife Biologists and thus focuses solely on Airport Wildlife Management. Loomacres Wildlife Management Inc. guarantees that a qualified airport wildlife biologist who has conducted approved wildlife hazard assessments will be performing all services at all times. Our team has more FAA Qualified Biologists on staff than any other team in the country thus we are able to provide all services in house and at a lower cost than that of our competitors. Our biologists are able to immediately react to any unforeseen wildlife hazards with success. We understand the needs of airport managers to provide a safe environment for the operation of aircraft as well as understand the requirements that animals need. Often these problems collide creating an unsafe environment for people and wildlife. Our employees utilize their extensive experience and training in order to provide the utmost quality in wildlife management. They use innovative, sound, and ethical practices to help alleviate the risk to human health and safety.

Wildlife is attracted to an area depending on several circumstances. Some of these include the availability of food, water and cover or more geographically significant features such as large bodies of water, mountain ranges or migratory routes. Each of these factors will have an effect on the type of species, their numbers and the time of year that they occur in your location. Being able to identify these conditions and the species associated with them is just the first step in our multilevel approach to wildlife management. Our team takes an integrated approach to wildlife management often referred to as Integrated Wildlife Management. We combine both active and passive management techniques. Through data collection, onsite observations, and other sources of information and with the cooperation of airfield staff; our team will carry out Wildlife Hazard Assessments and create Wildlife Hazard Management Plans as per the requirements of FAA 14 CFR 139.337.

Loomacres Wildlife Management
Phone: (800)-243-1462 • Fax: 518-618-3129
www.airportwildlife.com • info@loomacres.com

LOOMACRES
Wildlife Management

In addition to passive and active management techniques utilized on site, we are also able to assist airports with offsite wildlife management to ensure, as per FAA AC 150/5200-33b *Hazardous Wildlife Attractants on or near airports* and AC 150/5200-34 *Construction or establishment of landfills near public airports,* that wildlife attractants within 5 miles of the airfield are limited.

Our team has experience conducting Wildlife Hazard Assessments for airports throughout the US and Oregon, thus we are especially familiar with the flora and fauna surrounding your facility. All of our Wildlife Hazard Assessments and Management Plans have been approved by the FAA thus we can, with confidence, guarantee an FAA approved product.

Through regular communication, monthly reports and quarterly meetings with the staff at Newport Municipal Airport, our team will be able to keep all informed of the success of the projects and will be able to address any issues, concerns or updates.

Detailed descriptions of all above information can be found in the attached proposal. We look forward to establishing a relationship with the City of Newport.

Sincerely,

Cody L. Baciuska
Vice President & Airport Wildlife Biologist
Loomacres Inc.
P.O. Box 361
Warnerville, NY 12187
PH: 800-243-1462
Fax: 518-618-3129

LOOMACRES
Wildlife Management

"Bringing wildlife management to a higher level"™

Proposal to Conduct a Wildlife Hazard Assessment and create a Wildlife Hazard Management Plan for the Newport Municipal Airport

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- P r o f e s s i o n a l - R e l i a b l e - E t h i c a l -

Offices Nationwide

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LOOMACRES' EXPERIENCE:

Loomacres Wildlife Management was the first private company to be approved by the FAA to perform Wildlife Hazard Management services on airports. Since 2005, Loomacres Wildlife Management's primary mission has been to provide airports and municipalities with the highest quality of wildlife management consulting available. Loomacres Inc. was created by Airport Wildlife Biologists and thus focuses solely on Airport Wildlife Management. In 2008, Loomacres was incorporated as Loomacres Inc. (corporation) under the jurisdiction of New York.

Loomacres Wildlife Management Inc. guarantees that a FAA Qualified Airport Wildlife Biologist who has conducted approved wildlife hazard assessments will be performing all biological services at all times. Loomacres has more FAA Qualified Airport Biologists on staff than any other firm in the country thus we are able to provide all services in house and at a lower cost than that of our competitors.

Our staff has experience conducting Wildlife Hazard Assessments for airports throughout the US thus are especially familiar with the flora and fauna throughout the state of Oregon. With a local project office and experience throughout the US we will be able to keep project costs to a minimum and ensure an on-time product and quality services. This will also allow for us to provide efficient and reliable service on short notice if any unforeseen conditions involving wildlife were to occur on the airfield. All of our Wildlife Hazard Assessments and Management Plans have been approved by the FAA thus we can, with confidence, guarantee an FAA approved product.

-List of Airports that Loomacres Inc. has provided Airport Wildlife Management Services, Consulting and/or Training;

JFK International, Stewart International, LaGuardia International, Tulsa International, Charlotte-Douglass International, Columbia Metropolitan Airport, Nashville International, Mcghee Tyson International, Chennault International, Anniston Metropolitan, Huntsville International, Little Rock International, Mahlon-Sweet Field Eugene, Buffalo International, Niagara Falls International, Gulfport-Biloxi, Havre Municipal, Riverton Regional, Rogers Municipal, Mena Intermountain, Teterboro International, Middle Georgia Regional, Trenton Mercer Municipal, Republic, Saranac Lake Regional, Hancock County Bar Harbor, Sullivan County Municipal, Princess Juliana International Airport-St. Maarten, Jamestown International, Poconos Regional, Johnstown-Cambria County, Blair County, Plattsburgh International, Massena International, Ogdensburg International, Binghamton Regional, Elmira-Corning Regional, Ithaca-Tompkins Regional, Warren T. Eaton, Joslin Field-Magic Valley Regional, Palm Beach County, Lantana, Lebanon Regional, Manchester-Boston International, South Lafouche Airport, Houma Terrebone Airport, Hammond Northshore Regional Airport, Searcy Municipal, Stuttgart Municipal, Russellville Municipal, Guntersville Airport, Fort Worth-Meacham, Cleveland Municipal, Temple Airport, Northwest Alabama Airport, Shenandoah Valley Regional, Syracuse International, Northwest Arkansas Regional Airport, Greenville-Spartanburg International Airport, Fayetteville-Drake Field Airport, Fort Smith Regional Airport, Owensboro-Daviess County Regional Airport, Hagerstown, Bartlesville Municipal, Stillwater Regional, Ponca City

Regional, Raleigh County Memorial Airport, North Central West Virginia, Mid-Ohio Valley Regional, Columbia Regional Airport, Lawton-Fort Sill Regional Airport, Enid-Woodring Regional Airport, East Texas Regional Airport, Salisbury-Ocean City Wicomico Regional, Delaware River and Bay Authority.

WILDLIFE HAZARD ASSESSMENT EXPERIENCE:

The following is a list of just some of the airports that we have conducted Wildlife Hazard Assessments projects for during the last 5 years that **have been FAA Approved**. These include both 139 certificated airports as well as GA airports. In addition all of these projects included either the development or update of the airport's Wildlife Hazard Management Plan.

Tulsa International Airport, OK
Buffalo International Airport, NY
Nashville International Airport, TN
Little Rock National, AR
Owensboro-Daviess County, KY
Chennault International, LA
Republic Airport, NY
Hancock County Bar Harbor, ME
Sullivan County Airport, NY
Altoona-Blair County, PA
Lancaster Airport, PA
Ithaca-Tompkins Regional, NY
Niagara Falls International, NY
Lebanon Municipal, NH
Syracuse-Hancock, NY
Greenville-Spartanburg International, SC
Northwest Arkansas Regional, AR
Saranac Lake Regional, NY
Ogdensburg International, NY
Watertown International, NY
Fort Smith Regional, AR
North Central West Virginia Regional, WV
Mid-Ohio Valley Regional, WV
East Texas Regional, TX
Plattsburgh International, NY
Columbia Regional, MO
Houghton County Municipal, MI
Mcghee Tyson Knoxville, TN
Huntsville International Airport, AL

We have just recently completed and submitted the following Wildlife Hazard Assessments and are awaiting approval.

North County Airport (F45), FL
Lantana Airport (LNA), FL
Fayetteville Executive Airport, AR
Enid-Woodring, OK
Tunica Municipal, MS
Fort Worth Meacham, TX
Raleigh County Memorial Airport, WV

We are currently completing the following Wildlife Hazard Assessments:

Charlotte-Douglass International, NC
Mahlon Sweet Field-Eugene, OR
Havre Municipal, MT
Riverton Regional Airport, WY
Trenton Municipal, NJ

TRAINING EXPERIENCE

Loomacres prides itself on its ability to train both airport staff and consultants in the industry. In addition to conducting annual Wildlife Management Training for airport personnel Loomacres is currently the only private company provider of Wildlife Hazard Management Training that acceptable to the FAA administrator for the training of Biologists who wish to conduct Wildlife Hazard Assessments as per AC 150/5200-36A. Furthermore, Loomacres offers an array of training courses for GA airports and for specific airport needs including live fire pyrotechnics training and NRA certified firearms training for airport personnel. Loomacres staff trains over 500 Aviation Professionals on an annual basis. Please see the Appendix II for a letter from the FAA confirming Loomacres' training qualifications.

AIRPORT WILDLIFE MITIGATION EXPERIENCE

Loomacres' staff is fully trained in airport wildlife mitigation methods. Our staff use both passive and active methods encompassed in Integrated Wildlife Management. Our staff is able to quickly identify and respond to wildlife hazards as they are identified during the course of our Wildlife Hazard Assessments. In addition to passive and active management techniques utilized on site, we are also able to assist airports with offsite wildlife management to ensure, as per FAA AC 150/5200-33b Hazardous Wildlife Attractants on or near airports and AC 150/5200-34 Construction or establishment of landfills near public airports, that wildlife attractants within 5 miles of the airfields are limited. Loomacres has several on-call and full time wildlife management service contracts in which we are responsible for coordinating and carrying out all wildlife management activities and act as a liaison between local landowners, government entities and the airports to ensure success.

ADDITIONAL REFERENCES

Wildlife Hazard Assessment & Management Plan, Eugene Airport, Eugene OR
POC Scott Milovich, Deputy Airport Director, 541-682-5095 Project Cost $58,724.00

Project Description: Loomacres is conducting a Wildlife Hazard Assessment for the Eugene Airport. Loomacres will also create a Wildlife Hazard Management Plan and training for airport staff. This project is set to be completed in December of 2014

Wildlife Hazard Assessment & Management Plan, Riverton Regional Airport, Riverton, WY
POC Paul Griffin, Assistant Manager, 307-856-7063, Project Cost: $73,211.00

Project Description: Loomacres is conducting a Wildlife Hazard Assessment for the Riverton Regional Airport. Loomacres will also create a Wildlife Hazard Management Plan and training for airport staff. This project is set to be completed in April of 2014.

Wildlife Hazard Assessment & Management Plan, Havre City-County Airport, Havre MT
POC Tom Lowe, Airport Manager, 406-262-3578 Project Cost: $73,940.00

Project Description: Loomacres is conducting a Wildlife Hazard Assessment for the Havre City-County Airport. Loomacres will also create a Wildlife Hazard Management Plan and provide training for airport staff. This project is set to be completed in September of 2014.

Wildlife Hazard Management Plan, Joslin Field-Magic Valley Regional Airport, Twin Falls, ID
POC Ed Lang, Operations Supervisor, 208-733-5215 ext. 1 Project Cost $7,100.00

Project Description; Loomacres Inc. has completed a Wildlife Hazard Management Plan for the airport.

Wildlife Hazard Assessment, Tulsa International Airport, Tulsa, OK
POC Ken Miller, Tulsa Airport Authority, 918-838-5085 Project Cost $88,945.00

Project Description: Loomacres Inc. has completed a Wildlife Hazard Assessment for the Tulsa International Airport. Loomacres will also update the airport's Wildlife Hazard Management Plan, and provides the airport's staff with FAA required wildlife hazard management training. Loomacres continues to have an Airport Biologist stationed onsite to provide daily oversight and implementation of the airport's wildlife hazard management plan.

Wildlife Hazard Assessment, Owensboro-Daviess County Airport, Owensboro, KY
POC Rick Wells, Director of Facilities, 270-685-4179 Project $55,445.00

Project Description: Loomacres, Inc. has completed a Wildlife Hazard Assessment for the airport and created the airport's WHMP. Loomacres has provided the airport with FAA required Wildlife Identification and Management Training.

Wildlife Hazard Assessment, Northwest Arkansas Regional Airport, Bentonville, AR
POC Steven Keith, Operations Director, 479-790-9929. Project Cost: $62,098.00

Project Description: Loomacres, Inc. has completed a Wildlife Hazard Assessment for the Northwest Arkansas Regional Airport. Loomacres also provides the airport with FAA required Wildlife Identification and Management Training annually. Currently Loomacres acts as the Airport's oncall Wildlife Consultant. Our staff assists the airport with implementing their Wildlife Hazard Management Plan and coordinates with offsite stakeholder when harassment or population reduction occirs on or off the airport,

Wildlife Hazard Assessment, Houghton County Memorial Airport, Hancock, MI
POC Dennis Jouppe, Airport Engineer/Project Manager, Peckham Engineering, 906-369-0666, Project Cost $49,445.00

Project Description: Loomacres, Inc. has completed a Wildlife Hazard Assessment for the Houghton County Memorial Airport. Loomacres has provided the airport with FAA required Wildlife Identification and Management Training. This project was completed during the fall of 2011.

Wildlife Hazard Assessment and Related Services, Nashville International Airport, Nashville, TN
POC Chris Ricketts, Operations Coordinator, 615-218-3870 Project Cost $77,134.00

Project Description: Loomacres Inc. has completed a Wildlife Hazard Assessment for the Nashville International Airport (2011). Loomacres has also developed the airport's Wildlife Hazard Management Plan (2011). Loomacres continues to provide the airport's staff with the FAA required Wildlife Hazard Management Training annually and on-call wildlife management services.

Wildlife Hazard Assessment and Related Services, Huntsville International Airport, Huntsville, AL
POC Ryan Gardner, Operations Manager, 256-258-1201 Project Cost, $98,925.00

Project Description: Loomacres Inc. has an on-call Airport Wildlife Biologist stationed in Huntsville to assist the airport in carrying out wildlife management activities. Loomacres is also completed a Wildlife Hazard Assessment for the Huntsville International Airport (2012). Loomacres also developed the airport's Wildlife Hazard Management Plan. Loomacres has provided the airport's staff with the FAA required Wildlife Hazard Management Training annually.

Wildlife Hazard Assessment/Prime Consultant, Buffalo-Niagara International Airport, Buffalo, NY
POC Dave Macy, Operations Director, 716-863-3586, $72,000.00

Project Description: Loomacres has been the prime consultant to the Buffalo-Niagara International Airport since 2006 providing annual FAA required Wildlife Identification and Management Training, consulting services and direct control work as needed. Loomacres is currently conducting a Wildlife Hazard Assessment for the airport and will be updating the airfields Wildlife Hazard Management Plan.

Wildlife Hazard Assessment, Little Rock National Airport, Little Rock, AR
POC Charlie Jones, Operations Director, 501-372-3439 $82,000.00

Project Description: Loomacres, Inc. completed a Wildlife Hazard Assessment and Wildlife Hazard Management Plan for the Little Rock National Airport. Loomacres is also providing the airport with airport FAA required Wildlife Identification and Management Training. This project was for completion during the summer of 2013

Wildlife Hazard Assessment, McGhee Tyson Airport, Knoxville, TN
POC Bryan Rollins, Operations Manager, 865-342-3088, 74,000.00

Project Description: Loomacres Inc. has completed a Wildlife Hazard Assessment for the McGhee Tyson Airport. Loomacres also developed the airport's Wildlife Hazard Management Plan. Loomacres is

providing the airport's staff with the FAA required Wildlife Hazard Management Training annually and assisting with wildlife control services.

Wildlife Hazard Assessment, Fort Smith Regional Airport, Fort Smith, AR
POC Mike Griffin, Operations Coordinator, 479-452-7000

Project Description: Loomacres, Inc. has completed a Wildlife Hazard Assessment for the Fort Smith Regional Airport. Loomacres has provided the airport with airport FAA required Wildlife Identification and Management Training.

Wildlife Hazard Assessment, Chennault International Airport, Lake Charles, LA
POC Cortez Gallien, Director of Operations, 337-513-2514

Project Description: Loomacres, Inc. has completed the field work necessary for a Wildlife Hazard Assessment for the Chennault International Airport. Loomacres also be provides direct control assistance and FAA annual Wildlife Hazard Management Training. This project was completed in the spring of 2012.

Wildlife Hazard Management and Related Services, Elmira-Corning Regional Airport, Elmira, NY
POC Bill DeGraw, Operation Manager 607-739-5613 ext.231

Project Description: Loomacres Inc. provides a part-time Airport Biologist to assist the airport in carrying out wildlife management activities. Loomacres' activities focus on managing marmot, coyote and deer populations that occur on or near the airport. Loomacres also provides the airport's staff with the FAA required Wildlife Hazard Management Training annually.

QUALIFICATIONS OF KEY STAFF:

Loomacres Inc. puts its reputation in the selection and the performance of our employees. Loomacres Inc. is proud that it has more FAA qualified wildlife biologists on staff than any other firm in the country. Additionally, Loomacres is the only private sector company that is approved by the FAA to conduct the training required to qualify Airport Wildlife Biologists. Loomacres Inc. currently utilizes the skills of several in-house FAA Qualified Airport Wildlife Biologists. Loomacres Wildlife Management's biologists include the first non- governmental wildlife biologist qualified by the FAA, Cody L. Baciuska, who will be the supervisory airport wildlife biologist overseeing all services and will be supported by six additional FAA qualified Airport biologists for this project. All of the personnel that will be operating on the airports have extensive experience conducting wildlife conflict resolution at airports and are FAA qualified airport biologist. Please see Appendix I and II for letters confirming Loomacres Qualifications.

Kristin Baciuska, (President & Qualified Airport Wildlife Biologist)- Biologist Kristin Baciuska has been with Loomacres since it was established in 2005. Kristin has a diverse background in the biological sciences to include fisheries and wildlife, wetlands and plant science. Kristin holds a Master's of Science degree in Biology and has completed a FAA grant funded research project titled "Native and Naturalized Grasses Suitable for use on Airports Managed for Wildlife". Kristin has presented her research at numerous venues including the 2009 & 2010 USA/Canada Bird Strike Conferences as well as the 2009 Wildlife Damage Management Conference. Kristin's research in the plant sciences has made her a valuable asset to our company in her ability to assess both vegetation and habitat on and around airports. Kristin is confident in her ability to make vegetation management and planting recommendations to airfields across the United States. In addition to her graduate work, Kristin has taken numerous continuing

education credits in the wetland sciences at Rutgers University and is a certified wetland delineator as well as a Certified Commercial Pesticide Applicator. Kristin's previous employers include USDA Wildlife Services and several landscape architects. Kristin Baciuska exceeds the requirements outlined in AC No: 150/5200-36A. Please see the Appendix III for further information regarding Mrs. Baciuska's qualifications.

Cody Baciuska, (Vice President & Qualified Airport Wildlife Biologist)-All Loomacres Inc. employees work under the direct supervision Cody Baciuska. Mr. Baciuska has conducted Wildlife Hazard Assessments, developed Wildlife Hazard Management Plans, and has conducted numerous airport related research studies. Mr. Baciuska has provided wildlife hazard mitigation for some of the largest airports in the United States; including John F. Kennedy International Airport, Nashville International Airport and LaGuardia International Airport. In addition to being a FAA qualified Airport Wildlife Biologist, Mr. Baciuska sits on the Birdstrike USA Steering Committee, and is a member of the National Wildlife Control Operators Association, the Wildlife Society and is the current president of the NYS Wildlife Management Association. In addition, Mr. Baciuska is a certified National Rifle Association firearms instructor. Mr. Baciuska will be the primary Biologist overseeing all services. Mr. Baciuska exceeds the requirements outlined in AC No: 150/5200-36A. Please see the Appendix III for further information regarding Mr. Baciuska's qualifications.

Mat Natali, (Qualified Airport Wildlife Biologist)- Biologist Mat Natali has a Bachelor's degree in Wildlife Biology from the University of Pittsburgh and has ample experience conducting Wildlife Hazard Assessments, trainings and control work for airports throughout the southern US. Mat has also conducted several FAA qualified airport wildlife management training courses. Mat has excellent wildlife identification skills and is keen at identifying habitat types that may attract wildlife on airfields. Mat is familiar with and experienced in the safety and security procedures required when operating on an airfield and has airport driving experience. Please see the Appendix III for further information regarding Mr Natali's qualifications.

Shawn Ferdinand, (Qualified Airport Wildlife Biologist)- Shawn Ferdinand holds Bachelors degrees in Environmental Science and in Wildlife Management from the State University of New York. Shawn has field experience in all aspects of airport wildlife management and, as part of Loomacres, Shawn has conducted and written several FAA approved Wildlife Hazard Assessments for airports across the US. Shawn has also helped create several FAA approved Wildlife Hazard Management Plans and conducted several Wildlife Hazard Management Training Courses. Shawn has drafted rare species accounts to contribute to the Species of Greatest Conservation Need list and has experience with all types of permitting, bird banding and conducting all types of biological surveys. Shawn is also familiar with airport driving and security procedures. Please see the Appendix III for further information regarding Mr. Ferdinands qualifications.

Bill Antonides (Qualified Airport Wildlife Biologist)- Bill Antonides was employed for 22 years as a wildlife conservation officer for the South Dakota Department of Game, Fish and Parks. His job required extensive land and wildlife management work on both public and private land. After retiring from the Game, Fish and Parks Department, Bill pursued other career interests, including work at airports as a wildlife hazard management specialist and qualified airport wildlife biologist. Bill has years of experience conducting WHA's and creating WHMP's. Furthermore, Bill has experience heading up Wildlife Hazards Working Groups consisting of airport personnel, fixed-base operators, law enforcement officials, and city and county planners and has been tasked with annually reviewing WHMP's and progress on the

recommendations of WHA's. Bill is also an instructor for the annual airport wildlife hazard management training required by the FAA. Please see the Appendix III for further information regarding Mr. Antonides's qualifications.

Jon Wills (Qualified Airport Wildlife Biologist)- Jon earned a bachelor's degree in Wildlife Biology from Murray State University. After graduating, he gained valuable field experience in deer telemetry, vegetation sampling and deer management. Prior to joining Loomacres, Jon was employed by Colorado Parks and Wildlife where he worked with wild turkey and swift fox. Jon is knowledgeable in the ecology of many wildlife species and has experience working with private land owners. As part of the Loomacres team Jon uses his extensive field experience to carry out wildlife management services. Jon has airport driving experience and is familiar with airport security procedures. Please see the Appendix III for further information regarding Mr. Wills qualifications.

Ted Igleheart (Qualified Airport Wildlife Biologist)- Wildlife Biologist Ted Igleheart has been assisting Loomacres Wildlife Management since 2005. Ted has worked on several Wildlife Hazard Assessment Projects and lives and works out of Worland, WY. Ted holds degrees in Wildlife Management and Ecology from the University of Kentucky and the University of Maine. As a BLM Wildlife Biologist Ted has experience conducting endangered species surveys.. Prior to joining Loomacres Ted also worked for USDA Wildlife Services and the Maine Department of Inland Fisheries and Wildlife. Please see the Appendix III for further information regarding Mr. Iglehearts's qualifications.

STAFFING STRUCTURE:

Staff assigned to this project will be working out of two offices: Our headquarters located in NY and our project office in OR. The Airport Biologist will be working from our project office.

Headquarters:
134 Markley Road, Suite 1
Cobleskill, NY 12043
PH: 518-234-7658
FAX: 518-618-3129

Our Airport Biologists are never assigned more than 4 projects at a time. Our depth of staff allows for an alternative Qualified Airport Wildlife Biologist to assist the Qualified Airport Wildlife Biologists assigned to this project in the event of illness or another similar situation. This ensures that your project will be given the upmost attention and that all tasks will be completed on time.

The Airport Biologist will be responsible for the day to day management of the project, conduct research, and perform surveys. Three additional Qualified Airport Biologists will act as backups to ensure continuity of the project. Below you will find a diagram of the staffing structure for this project. No sub-contractors will be used.

SUMMARY OF EXISTING & PROPOSED COMMITMENTS FOR KEY STAFF:

Other commitments of key staff members proposed for this project are summarized in this section of our proposal. The table below summarizes the existing commitments and those proposed for each key member of the team on a percentage of time within each calendar year of the project. As shown, key members of our staff, will have ample time available to devote to this project. Three of the biologists assigned to this project will act as backups should the primary biologists be indisposed for any reason. Each backup, although not working on the project on a daily basis will remain updated with the project and participate in all meetings.

Summary of the Existing Commitments and the Level of Effort Proposed on The ONP WHA Project				
Key Team Members	**Existing and Proposed Commitments for each Calendar Year**			
	4/14 to 12/14		**1/15 to 6/15**	
	Existing	**SGU WHA**	**Existing**	**ONP WHA**
K. Baciuska	60	2	40	2
C. Baciuska	45	2	45	2
M. Natali	25	25	25	25
S. Ferdinand	25	Backup	25	Backup
B. Antonides	50	Backup	50	Backup
T. Igleheart	10	Backup	0	Backup
J. Wills	25	Backup	25	Backup

TECHNICAL APPROACH:

Loomacres' staff will conduct a Wildlife Hazard Assessment, and develop/update Wildlife Hazard Management Plan as required by the FAA, Title 14 139.337(b) (1-4), and in accordance to the current version of Advisory Circular 150/5200-33, and all other relevant AC's, Cert-Alerts, Bulletins and Publications. All of the field work (100%) provided as part of this project will be carried out by FAA Qualified Wildlife Biologists. This section describes the specific activities that will be completed for the Wildlife Hazard Assessment. A detailed schedule for individual tasks and deliverables will be discussed in the next section. Many of our surveys and protocols go beyond the minimum requirements for a Wildlife Hazard Assessment. We can adjust the scope as required by the Airport as long as the minimum FAA requirements are met.

PHASE I WILDLIFE HAZARD ASSESSMENT:

I. Avian surveys will be conducted to document the species, number, habitat use and seasonal activity of birds that inhabit the airport. The surveys will be conducted four times monthly and will continue for one year. The surveys will be conducted at sites located on and adjacent to the airport property. Site selection will be determined at the start of the project. During the surveys each of the sites will be visited for 3 minutes. The birds that are observed during this time will be documented. The results will be analyzed and included in the final WHA reports.

II. Large mammal surveys will be conducted 2 times per month. Spotlights/Night vision/Infra-red will be used to document the abundance and distribution of mammals. A vehicle will be used to survey

the AOA and surrounding property. The route the vehicle will travel will be determined during the first visit to the airport. The results will be analyzed and included in the final WHA reports.

III. Small mammal surveys will be conducted during the spring and fall at each airport to document the small mammal population at the airports. two, 1000 ft, transects will be set up in varying habitat types within the airport property. Small mammal traps will be placed every ten feet along each of the transects. The transects will be set for a total of three nights. Each day the traps will be checked and the species caught will be recorded. The results will be analyzed and included in the final WHA reports.

IV. Vegetation surveys will be conducted to determine the dominant vegetation species on the airports. Vegetation height will be monitored at each survey location on a monthly basis to determine the average grass height for the growing season. Loomacres will also make planting recommendations as needed to ensure that no new attractants are created. The results will be analyzed and included in the final WHA reports.

V. Perimeter fence surveys will be conducted during each visit to the airport. If a breach in the fence is discovered, the location and recommendations will be provided to the airport immediately. A summary of the results will be provided in the final WHA reports.

VI. Loomacres Inc. staff will also document all major wildlife attractants and wildlife hazards at the airports and within 5 miles of the airports. This data and mitigation recommendations will be presented in the final WHA reports.

VII. The Wildlife Hazard Assessments will also analyze the history of bird strikes that have occurred at the airports and the circumstances that lead to the initiation of the Wildlife Hazard Assessments.

VIII. A review of all wildlife-associated permits will be assessed and a historical review of their use will be presented in the Wildlife Hazard Assessments.

IX. Two months after completing the field work the findings of the surveys, and all above mentioned will be compiled into FAA approved WHA reports and will be presented to the airport. The report will also include a description of any potential wildlife hazards observed on and around the airport. In addition, the report will provide recommendations for reducing identified wildlife and their potential for causing wildlife strikes, and make recommendations for mitigating the wildlife attractants found on and around the airport.

X. **Throughout the duration of the project Loomacres Inc. personnel will be available to assist airport personnel with the dispersal or removal of potential wildlife hazards (coyote, deer, geese, gulls, ect.), utilizing pyrotechnics, firearms, cage traps and body gripping traps. These methods will be discussed with airport management prior to their use. All of Loomacres Inc. personnel are trained, licensed, and experienced in the use of firearms, traps and pyrotechnics. Loomacres always adheres to all state and federal regulations including the Migratory bird treaty act of 1981.**

This is an additional service included as part of the contract. This service is unique to Loomacres Inc. Very few firms are able to offer these services.

XI. In the event of a wildlife/bird strike, Loomacres Inc. will assist airport personnel with the identification of the animal struck. Loomacres Inc. will also aid in the reporting of the strike.

XII. When necessary, Loomacres Inc. can assist with public relations. This includes public out-reach, and media relations. In addition, Loomacres Inc. will assist in acquiring land owner permission in the immediate area surrounding the airport in order to conduct surveys and wildlife conflict resolution.

PHASE II WILDLIFE HAZARD MANAGEMENT PLAN:

Upon completion of the Wildlife Hazard Assessment, Loomacres Inc. will be available to create/update the Wildlife Hazard Management Plan. Loomacres Inc. will develop the Wildlife Hazard Management Plan so that it will meet the requirements of FAA, Title 14 Part 139.337 (e) & (f)

I. Following the completion of the Wildlife Hazard Assessment Loomacres Inc. will develop the Wildlife Hazard Management Plan for the airport. The WHMP's will be based on the data gathered during the Wildlife Hazard Assessment. A Wildlife Hazard Management Plan provides detailed procedures and guidelines for the airport to address wildlife hazards at the airport. It will also prioritize the goals of the plan and sets a timeline for the accomplishment of the goals. The plan will recognize the people that will carry out the established goals and will take into account any habitat modifications and land use changes. Loomacres will include all necessary information regarding Local, State and Federal depredation permits. The plan will recommend vegetation management taking into account any threatened and endangered species determined to be on the airfield. This plan will include methods for regularly updating the existing plan annually or in the event of a new hazard involving wildlife arises. The plan will also outline the required annual dates of FAA Wildlife Hazard Management and Wildlife Identification Training and will provide an outline that Loomacres Inc. covers during its annual Airport Wildlife Hazard Management Training courses.

PHASE III FAA AIRPORT WILDLIFE TRAINING:

I. During the term of the contract Loomacres Inc. will conduct one Bird Identification and Wildlife Hazard Management training courses. The training exceeds the requirements of Part 139.337 regulations and has been **approved by the FAA**. The training will be conducted at the airport. If some airport personnel are unable to attend one of the trainings, they may attend one of our regularly scheduled trainings at other airports at no cost. All personnel that attend and pass the training will receive a certificate verifying their accomplishment. The names and grades of those in attendance will be provided to the Airport Manager and Loomacres Inc. will retain a copy. Please retain all documentation regarding this training for future reference. Please see appendix IV for an outline of this training.

TERM:

Due to the time sensitive nature of FAA requirements and the importance of reducing potential wildlife hazards, Loomacres Inc. is available to initiate this project at the Airports' earliest convenience. The proposed term of the agreement will begin on signing of this proposal and conclude 14 months later.

ESTIMATED WORK SCHEDULE

Below you will find a work schedule. The schedule was based on a projected start date of May 1, 2014. Also included is a summary of hours for each major task and associated staff member.

Schedule of Major Tasks, Milestones and Deliverables for ONP

Task	Primary Staff	2014								2015								
		M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Meetings:																		
Startup Meeting	PM,AB																	
Quarterly Meetings	PM, AB																	
Final Meeting	PM, AB																	
Project Setup:																		
Survey Site Selection	PM, AB																	
Site Specific Driver Training	AB																	
Site Specific Security Clearance	AB																	
Review of Wildlife Permits	AB																	
Field Work and Data Collection:																		
Wildlife Conflict Resolution/Control	AB																	
Avian Surveys	AB																	
Large Mammal Surveys	AB																	
Owl Surveys	AB																	
Two Small Mammal Surveys	AB																	
Survey of Wildlife Attractants	AB																	
Strike History Analysis	AB																	
Vegetation Surveys	AB																	
Milestones/Deliverables:																		
Monthly Reports	AB																	
Draft WHA Submitted	AB																	
Final WHA Report Submitted	PM, AB																	
Draft of WHMP	AB																	
Final WHMP	AB																	
Wildlife Management Training	AB																	

Clients Disc

SUMMARY OF HOURS

Summary of Hours By Major Task

	PM	AB	AA	Totals
1. Project Setup	1	10	1	12
2. Field Work	12	390	1	403
3. WHA Preperation	1	20	1	22
4.WHMP Preperation	1	15	1	17
Totals	15	435	4	454

LABOR RATES

Labor Rates	
Project Manager (PM)	$ 62.00
Airport Biologist (AB)	$ 65.34
Admin. Assistant (AA)	$ 38.35

BID SCHEDULE:

SECTION VII: BID SCHEDULE

LINE ITEM	DESCRIPTION	QTY	UNIT	COST	EXTENDED COST
1	WILDLIFE HAZARD ASSESSMENT	1	LS	$38,115.25	$38,115.25
				TOTAL BASE BID:	$38,115.25
ADDITIVE ALTERNATE					
A	WILDLIFE HAZARD MANAGEMENT PLAN	1	LS	$1,274.47	$1,274.47
				TOTAL WITH ADDITIVE ALTERNATE:	$39,389.72

LICENSES AND PERMITS:

Loomacres Inc. maintains all necessary permits and licenses to conduct wildlife management activities on airports Loomacres Inc. should be listed as a sub-permittee on all appropriate permits. Loomacres Inc. will act as a liaison with both State and Federal agencies to assist the airport with necessary application, permitting and reporting procedures. Loomacres Inc. will assist airport personnel with the maintenance and renewal of Wildlife Permits.

INSURANCE:

Loomacres Inc. maintains liability insurance coverage consisting of 2,000,000.00 per incident, 4,000,000.00 aggregate and an additional 2,000,000 umbrella policy. We also carry 2,000,000 in professional, 1,000,000 in vehicle, and 500,000 in workmen's comp. If additional insurance is required Loomacres Inc. will acquire and present appropriate documentation prior to the start of this project. Please see Appendix V for Insurance Accord.

SECURITY AND VEHICLE OPERATION:

All personnel that will be assigned to this project are trained on the safety and security procedures that must be followed at all times while working on airports. All personnel have previous experience operating vehicles unescorted on all movement areas within the AOA. Loomacres is willing to provide extensive details on personal and company backgrounds and agrees to submit to criminal history record checks.

DBE:

Loomacres Wildlife Management is a small women owned business.

OTHER INFORMATION:

- ***Loomacres Inc. (The consultant) accepts all the terms and conditions contained in the request for proposals, this proposal shall be considered valid for 120 days from the submission deadline.***
- ***All materials and documents acquired or produced by the Loomacres Inc. in conjunction with a resulting contract shall be delivered to and become property of the City of Newport without restriction or limitation of their future use.***
-
- ***Loomacres Inc. is registered with E-Verify.gov.***
- ***Loomacres Inc. is an equal opportunity employer and has a employment policy of nondiscrimination based on race, age, color, sex, religion, national origin, or other protected classification.***
- ***Loomacres Inc. has a zero tolerance policy for drug use in the workplace.***
- ***Please note that the information contained in this proposal is confidential and propitiatory and should only by viewed by the intended recipient and the potential client (City of St. George). The information contained in this proposal should not be used for any proposal or project without written permission from Loomacres Inc. We ask that if our proposal is not accepted all information that is contained within be destroyed and not distributed for any reason.***

ADDENDUMS:

As of the date of submittal (4/15/2014), Loomacres Inc. was made NOT made aware of any amendments to the original ITB.

APPENDIX I: FAA QUALIFICATION LETTER

LOOMACRES
Wildlife Management

Dear Airport/Operations Manager,

This letter was prepared to provide the Certificate Holder with documentation verifying that Loomacres' personnel meet the requirements of §139.337(c), & (f)(7) outlined in AC No: 150/5200-36a (§6e).

(1) The Trainer/qualified airport wildlife biologist has the necessary academic coursework from accredited institutions and work experience to meet the qualifications of a GS-0486 series wildlife biologist as defined by the U.S. Office of Personnel Management classification standards.

(2) The Trainer/qualified airport wildlife biologist has taken and passed an airport wildlife hazard management training course acceptable to the FAA Administrator.

(3) The Trainer/qualified airport wildlife biologist has while working under the direct supervision of a qualified airport wildlife biologist, has conducted at least one or more Wildlife Hazard Assessments acceptable to the FAA Administrator.

(4) The Trainer/qualified airport wildlife biologist has successfully completed at least one of the following within five years of their initial FAA approved airport wildlife hazard management training course,

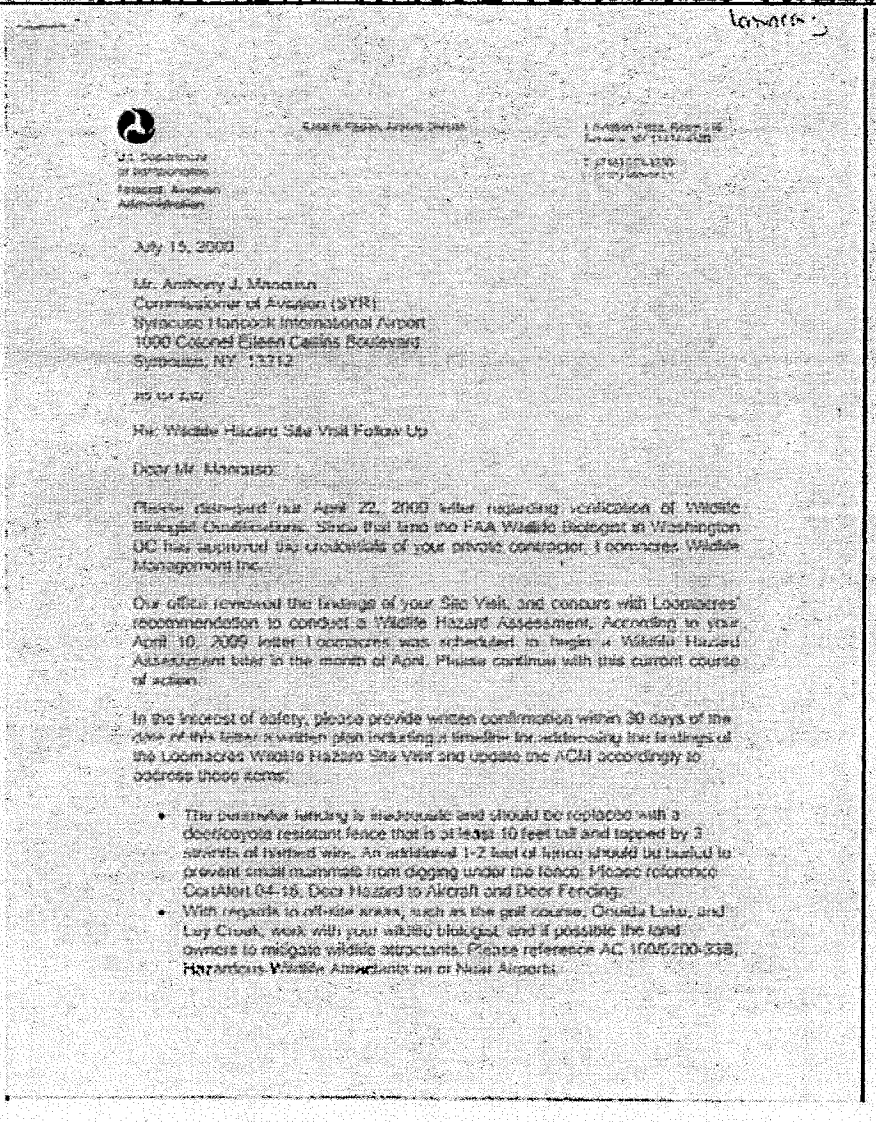
(i) An airport wildlife hazard management training course that is acceptable to the FAA Administrator or,

(ii) Attendance, as a registered participant, at a joint Bird Strike Committee–USA/Bird Strike Committee–Canada annual meeting.

Sincerely,

Cody Baciuska
Vice- President

APPENDIX II: LETTERS FROM THE FAA CONFIRMING LOOMACRES' QUALIFICATIONS



Loomacres

U.S. Department of Transportation
Federal Aviation Administration

July 15, 2009

Mr. Anthony J. Manzanet
Commissioner of Aviation (SYR)
Syracuse Hancock International Airport
1000 Colonel Eileen Collins Boulevard
Syracuse, NY 13212

Re: Wildlife Hazard Site Visit Follow Up

Dear Mr. Manzanet:

Please disregard our April 22, 2009 letter regarding verification of Wildlife Biologist Qualifications. Since that time the FAA Wildlife Biologist in Washington DC has approved the credentials of your private contractor, Loomacres Wildlife Management Inc.

Our office reviewed the findings of your Site Visit, and concurs with Loomacres' recommendation to conduct a Wildlife Hazard Assessment. According to your April 10, 2009 letter Loomacres was scheduled to begin a Wildlife Hazard Assessment later in the month of April. Please continue with this current course of action.

In the interest of safety, please provide written confirmation within 30 days of the date of this letter a written plan indicating a timeline for addressing the findings of the Loomacres Wildlife Hazard Site Visit and update the ACM accordingly to address those items:

- The perimeter fencing is inadequate and should be replaced with a coyote resistant fence that is at least 10 feet tall and topped by 3 strands of barbed wire. An additional 1-2 feet of fence should be buried to prevent small mammals from digging under the fence. Please reference Con Alert 04-16, Deer Hazard to Aircraft and Deer Fencing.
- With regards to off-site areas, such as the golf course, Oneida Lake, and Ley Creek, work with your wildlife biologist and if possible the land owners to mitigate wildlife attractants. Please reference AC 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports.

Cody@loomacres.com

From:	AmyAnderson@faa.gov
Sent:	Friday, July 13, 2012 3:23 PM
To:	Cody Baouka
Cc:	JohnWeller@faa.gov
Subject:	Airport Biologist Training Course

Cody,

The Airport Biologist Training Course that you submitted meets the criteria in FAA Advisory Circular 150/5200-36A Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports, Appendix C. The course therefore is considered acceptable to the FAA Administrator as an airport wildlife hazard management training course as described in the aforementioned AC, Section 8(c)(2).

Amy

Amy L. Anderson
Wildlife Biologist
Federal Aviation Administration
Airport Safety and Standards
800 Independence Avenue SW
Washington DC 20591
Phone: (202) 267-7205

APPENDIX III: RESUMES/CERTIFICATES

Cody Baciuska
Loomacres Wildlife Management, Inc.
cody@loomacres.com
607-760-8748

EDUCATION:

- **State University of New York, College of Agriculture and Technology at Cobleskill**
  Bachelor of Technology Degree in Animal Science- Concentration Wildlife Management
  Associate of Applied Science Degree- Concentration Fisheries and Wildlife Technology

- **State University of New York at Oneonta**
  Graduate Coursework in Biology
  Bachelors of Science Degree in Business Finance
  In progress

WORK EXPERIENCE:

- **Loomacres Wildlife Management, Inc.**

Co-Owner of Loomacres Wildlife Management. Loomacres provides wildlife and environmental consulting to the aviation industry, government agencies, municipalities, corporations and private individuals. Services range from wildlife and vegetation surveys to development and implementation of wildlife management plans. Loomacres also provides education and training to airport personnel involved in wildlife management.

- **United States Department of Agriculture, Wildlife Services**

Conducting wildlife surveys, habitat assessments, and wildlife hazard assements on a number of airports throughout New York. Data collection, entry, analysis, presentation. Assisting in the development of wildlife management plans. Identifying and addressing, damage, disease, and potential human heath and safety issues created by wildlife. Use of pyrotechnics, firearms and traps to haze and remove hazardous wildlife. Public relations and outreach and education.

- **National Audubon Society**

Operated 7 MAPS Bird Banding Stations, responsible for net setup, extracting birds, aging, sexing, banding, data recording and entry, and overall welfare of the birds captured in the nets. Also conducted point counts, breeding bird surveys, nest searching, and vegetation surveys.

- **Wetland Studies and Solutions**

Wetland restoration and mitigation, Planted a variety of trees and shrubs

LICENCES, TRAINING & CERTIFICATIONS:
- FAA Certified Airport Wildlife Biologist, NRA Certified Firearms Instructor -Airport Driving Cert., FAA Approved Wildlife Biologist Training, - NYS Pistol Permit, -NYS Wildlife Control Permit, -NYS Hunting and Trapping License, Boater Safety Cert

PROFESSIONAL MEMBERSHIPS:

- 2013-present, Steering Committee Chair, Birdstrike-USA
- *2009-present*, President of NYS Wildlife Management Association
- *2007- 2009*, Director of NYS Wildlife Management Association
- *September 2002- January 2003*, Secretary of the SUNY Cobleskill chapter of The Wildlife Society
- *January 2003- May 2003,* Vice President of the SUNY Cobleskill chapter of The Wildlife Society
- *2005-present, Member of National Wildlife Control Operators Association*

State University of New York

College of Agriculture and Technology at Cobleskill

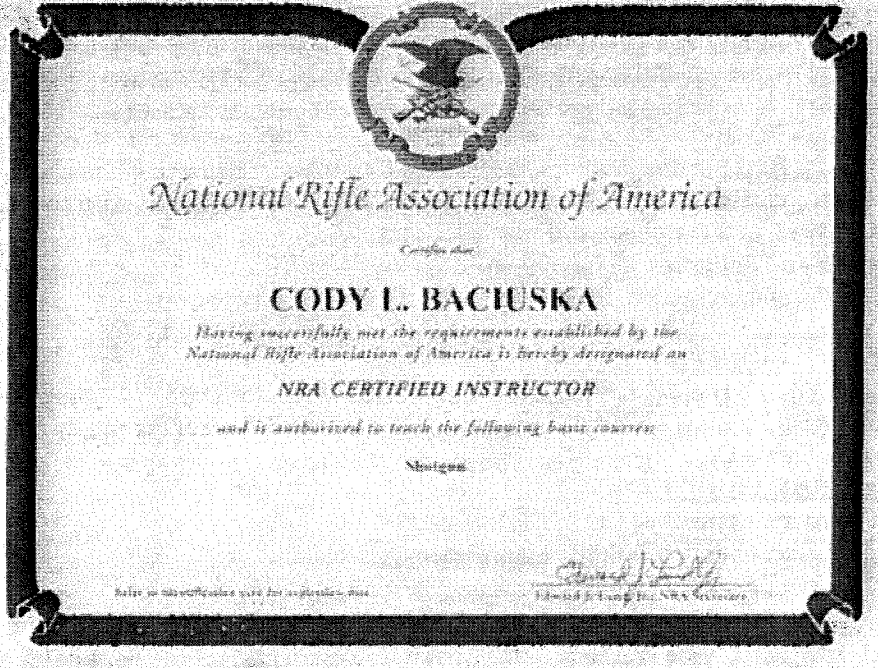
By virtue of the authority vested in it,
and upon recommendation of the Faculty, the Board of Trustees
hereby confers upon

Cody Lucas Baciuska

the Degree of

Bachelor of Technology

Given at Cobleskill, New York,
this twelfth day of December, 2003



Embry-Riddle Aeronautical University

Center for Professional Education
Hereby certifies that

Cody Baciuska

Has successfully completed 2.4 Continuing Education Units in
Wildlife Hazard Management
In Witness Whereof the signatures are authorized by the Board of Trustees and
the Seal of the University are hereunto affixed at Daytona Beach, Florida
this 18th day of May 2007 Anno Domini

Maria A. Smith, Chancellor

George A. Popp, J.D., Director

BIRD STRIKE COMMITTEE USA

Certificate of Training

Cody Baciuska

The 12th Joint Meeting of
Bird Strike Committee USA/Canada
in cooperation with
American Association of Airport Executives
21-24 June 2010
Salt Lake City, Utah USA

Identifying and reducing hazards to aviation caused by wildlife

Bird Strike Committee USA Steering Committee

KRISTIN M. BACIUSKA
(518) 542-6305
kristin@loomacres.com

EDUCATION: **State University of New York College at Oneonta**
Oneonta, NY 1382
MS *Graduate Program in Biology*

State University of New York, College of Agriculture and Technology at Cobleskill,
Cobleskill, NY 12043
Bachelor of Technology Degree in Plant Science- Conc. Environmental Studies

PROFESSIONAL WORK EXPERIENCE:

- **Loomacres Wildlife Management Inc.**
  July 2005-Current
  Co-owner and FAA Qualified Airport Wildlife Biologist working primarily on Airport Wildlife Hazard Assessments, Wildlife Hazard Management Plans, Training, Data Collection and Vegetation Surveys.
- **State University of New York- Oneonta, NY**
  October 2008-August 2010
  Part time Research Assistant. Worked on a FAA funded grant project titled "Native & Naturalized Turf Species Suitable for Use On Airports Managed for Wildlife Hazards"
  This work is fulfilling a Master's Thesis Requirement.
- **State University of New York –Oneonta, NY**
  September 2007-February 2009
  Part time Research Assistant. Organize collected plant specimens in college herbarium and prepared them for mounting and submission to the NYS Museum and other collections. Plant collection, ID and database creation and entry.
- **USDA Animal Plant Health Inspection Service Wildlife Services- Castleton, NY**
  October 2004 to July 2005
  GS-05 Biological Science Technician Wildlife. Used techniques including pyrotechnics to haze avian species on airports, landfills and in urban areas. Avian and Mammalian Surveys, trapping and database entry. Operated West Nile Virus Hotline. Administrative assistance.

PRESENTATIONS:

- USA/Canada Birdstrike Conference 2010 Salt Lake City, Utah (Speaker)
- Wildlife Management Workshop, Saratoga NY (Poster Presentation)
- USA/Canada Birdstrike Conference 2007,2008 & 2009 (Poster Presentation)

PUBLICATIONS:

- Baciuska, K. (2010) Native and Naturalized Turf Species Suitable for Use on Airports Managed for Wildlife in the Northeastern US. *State University of New York College at Oneonta. Master's Thesis*

CERTIFICATES/LICENCES:

- FAA Qualified Airport Wildlife Biologist 2009
- NYSDEC Commercial Pesticide Applicator 2008
- Embry Riddle Wildlife Hazard Management Workshop-2010
- Rutgers Wetland Delineation Certificate Series 2008

Embry-Riddle Aeronautical University

The Office of Professional Education
hereby certifies that

Kristin Baciuska

Has successfully completed 2.4 Continuing Education Units in the following:

SFN-3000 Airport Wildlife Hazard Management Workshop

In Witness Whereof the signatures are authorized and
the Seal of the University are hereunto affixed at Daytona Beach, Florida,
this 22nd day of January 2010 Anno Domini

State University of New York
College at Oneonta

On the recommendation of the Faculty and by virtue of the authority
vested in them, the Trustees of the University
have conferred upon

Kristin Marie Dorsch

the degree of

Master of Science

and have granted this Diploma as evidence thereof.
Given in the City of Oneonta, in the State of New York, in the United
States of America this twenty-first day of May, two thousand and eleven

William M. Natali

Loomacres Wildlife Management
Lead Airport Wildlife Biologist
E-mail: mnatali@loomacres.com

EDUCATION

University of Pittsburgh
Bachelor's degree in Wildlife Biology

WORK EXPERIENCE

Loomacres Wildlife Management
Wildlife Biologist 2010-Present

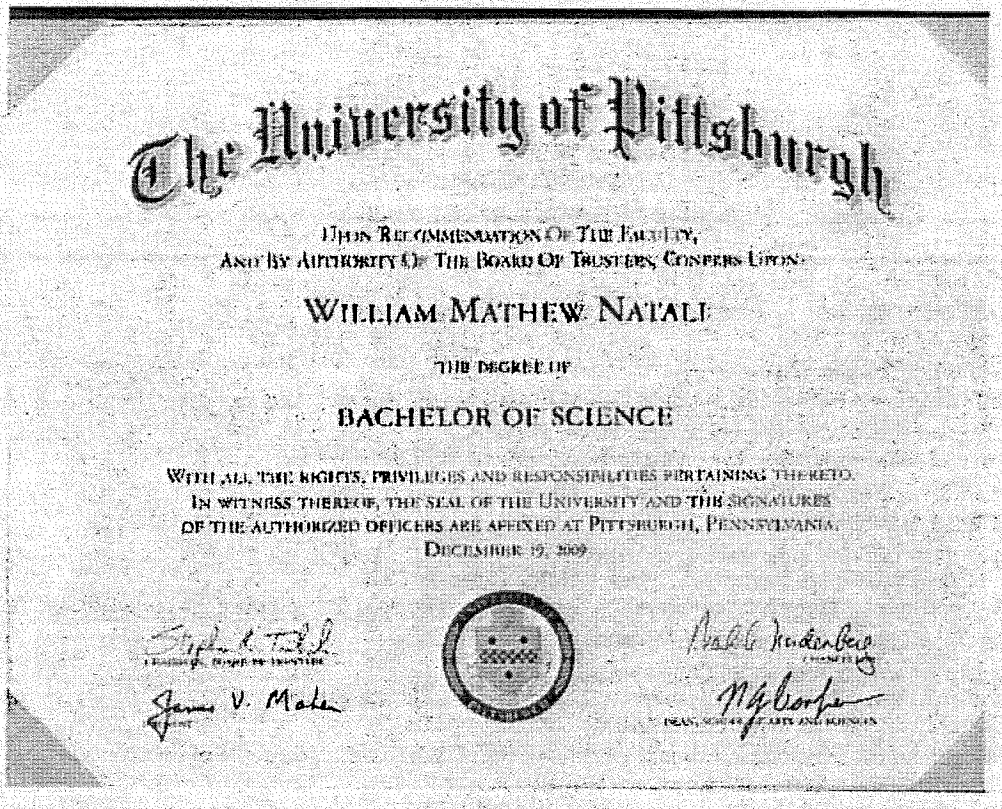
- Conduct Airport Wildlife Hazard Assessments
- Create Wildlife Hazard Management Plans
- Bird and Mammal Surveys on Airports
- Airport Wildlife Management Services & Consulting
- Airport Wildlife Hazard Management and Consulting
- Wildlife Control and Management on Airports & Golf Courses
- Airport Driving and Security
- FAA Qualified Airport Wildlife Biologist

National Aviary
Volunteer and Intern

- Animal Husbandry
- Bird Handling

FIELD EXPERIENCE

- Airport Wildlife Hazard Management Services
- Bird and Bat Mortality Surveys
- Nest Monitoring and Point Count Surveys
- Animal Husbandry
- Identification of Birds by Sight and Sound
- Trapping and Hazing of Wildlife
- Firearms Experience
- Training of Airport Personnel in Wildlife Management and ID



The University of Pittsburgh

Upon Recommendation Of The Faculty,
And By Authority Of The Board Of Trustees, Confers Upon

WILLIAM MATHEW NATALI

The Degree Of

BACHELOR OF SCIENCE

With All The Rights, Privileges And Responsibilities Pertaining Thereto.
In Witness Thereof, The Seal Of The University And The Signatures
Of The Authorized Officers Are Affixed At Pittsburgh, Pennsylvania.
December 19, 2009

CERTIFICATE
OF
COMPLETION

This certificate is awarded to:

Mat Natali

For successfully completing Loomacres Wildlife Management's Advanced Airport Wildlife Hazard Management Training Course at the Columbus Metropolitan Airport March 13-14, 2013. This credential meets the training requirements set forth by the FAA under Title 14, Code of Federal Regulations, Part 139 and AC No: 150/5200-36A Qualifications for Wildlife Biologists Conducting Wildlife Hazard Assessments.

LOOMACRES
Wildlife Management

Shawn M. Ferdinand

Loomacres Wildlife Management
Wildlife Biologist
E-mail: shawnf@loomacres.com

Professional Experience:

- **Wildlife Biologist**
  Loomacres Wildlife Management, Inc.
  - Wildlife Hazard Assessments, Wildlife Hazard Management Plans and training.
  - Passive and active wildlife control methods on airfields.
  - Avian and Mammalian Surveys on airports throughout the US
  - Airport driving experience and familiarity with airport security protocols.
- **Fish and Wildlife Technician I**
  NYS Department of Environmental Conservation
  Division of Fish, Wildlife & Marine Resources: Wildlife Diversity Unit
  - Completed species of greatest conservation assessments to be used for updating the State Wildlife Action Plan.
- **Non-lead Outreach and Education Coordinator**
  NYS Department of Environmental Conservation
  Division of Fish, Wildlife & Marine Resources: Sportsman Education & Hunter Safety
  - Developed educational handouts for instructors and students
  - Developed and conducted educational workshops for NYSDEC staff and people of interest
  - Updated NYSDEC sportsman education website

Education:

State University of New York at Cobleskill B.T. Wildlife Management

- Undergraduate Grade Point Average: 3.85

State University of New York at Fredonia B.S. Interdisciplinary Studies – Environmental Sciences

- Undergraduate Grade Point Average: 3.59

Accomplishments:

- Merrill Family Scholarship
- Nancy Garlapow Scholarship
- Academic Excellence: SUNY Fredonia Scholarship
- Dean's List: 6 semesters at SUNY Fredonia and 3 semesters at SUNY Cobleskill

Affiliations:

- The Wildlife Society: 2011-Current
- Trout Unlimited: Spring 2012-Current
- Ducks Unlimited Fall 2012- Current

Computer Skills:

- Knowledge of Microsoft Word, Microsoft PowerPoint, Microsoft Excel, Mini Tab Statistical, ESRI ArcMap, ESRI ArcScence, ESRI ArcView

Volunteer Experience:

- Hemlock Wooly Adelgid Surveying:
  Minekill State Park, Blenheim, NY
- Wildlife Rehabilitation:
  Assisted at Kelly Martin's, Middleburgh, NY
- Educational Community Walk on Stream Ecology
  SUNY Fredonia, Fredonia, NY

State University of New York

College of Agriculture and Technology at Cobleskill

By virtue of the authority vested in it,
and upon recommendation of the Faculty, the Board of Trustees
hereby confers upon

Shawn M Ferdinand

the Degree of

Bachelor of Technology

given at Cobleskill, New York,
this fifteenth day of December, 2012

STATE UNIVERSITY OF NEW YORK

AT FREDONIA

on the recommendation of the Faculty
and by virtue of the authority vested in them
the Trustees of the State University of New York have conferred on

Shawn M. Ferdinand

the degree of

Bachelor of Science

and have granted this diploma as evidence thereof
given in the Village of Fredonia in the State of New York
in the United States of America in the month of May,
two thousand and eleven.

CERTIFICATE OF COMPLETION

This certificate is awarded to:

Shawn Ferdinand

For successfully completing **Loomacres Wildlife Management's** Advanced Airport Wildlife Hazard Management Training Course at the Columbia Metropolitan Airport March 12-14 2013. This individual meets the *training* requirements set forth by the FAA under Title 14, Code of Federal Regulations, Part 139 and AC No: 150/5200-36A Qualifications for Wildlife Biologists Conducting Wildlife Hazard Assessments.

LOOMACRES
Wildlife Management

Cody L. Baculska — 3/25/13 Date

Bill Antonides

Loomacres Wildlife Management, Inc.
(800) 243-1462

EDUCATION

South Dakota State University
BS Biology and Wildlife and Fisheries Science

AREAS OF EXPERTISE

- Experience in completing FAA-approved WHAs and WHMPs
- Extensive wildlife damage control and habitat management experience, both on and off the airport

JOB EXPERIENCE

- FAA Qualified Airport Wildlife Biologist & Wildlife Hazard Management Specialist
- Wildlife Conservation Officer - SD Department of Game, Fish and Parks
- FAA-certified instructor for the annual training course required by AC 150/5200-36A

MILITARY EXPERIENCE

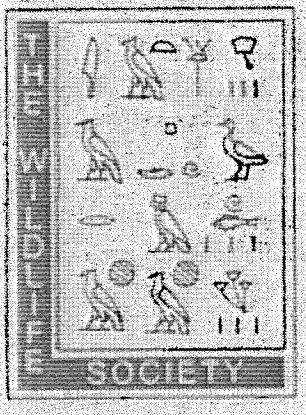
- Military Police - U.S. Army, honorable discharge
- Security Specialist - U.S. Air Force Air National Guard, honorable discharge

TRAINING

- USDA Aphis Airport Wildlife Hazard Management Training
- Embry-Riddle Wildlife Hazard Management Workshop - Denver, Colorado
- Joint Bird Strike Committee-USA/Birdstrike Committee-Canada Meetings

REGISTRATIONS

- Qualified Airport Wildlife Biologist under AC 150/5200-36A
- South Dakota Certified HuntSAFE Instructor
- Certified Wildlife Biologist
- Certified Pesticide Applicator



The Wildlife Society

INCORPORATED IN WASHINGTON, D.C.

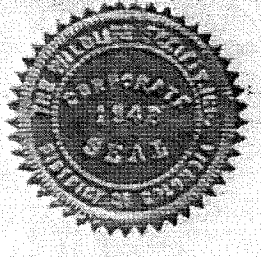
grants the designation

Certified Wildlife Biologist

to

William J. Antonides

in recognition of fulfillment of all the professional requirements approved by The Wildlife Society and certified by the Society's Certification Review Board on this 2 5th day of August 1998. This certificate remains valid provided membership in the Society remains in good standing.



President, The Wildlife Society

Chairman, Certification Review Board

Executive Director, The Wildlife Society

Jonathan C. Wills

618-731-8092
jwills@Loomacres.com

Education:

Murray State University Murray, Kentucky
Degree: Bachelor of Science Aug. 2005-May 2008
Area: Wildlife Biology

Rend Lake College Ina, Illinois
Degree: Associate of Science Aug. 2003-May 2005
Area: Science

Professional Skills: Airport Wildlife Management, Dendrology, ArcGIS, Field Botany, Ornithology, Herpetology and Wildfire Training

Professional Experience:

Loomacres Wildlife Management, Inc.
Wildlife Biologist

- Avian & Mammalian Surveys
- Wildlife Hazard Assessments, Management Plans & Training
- Nuisance wildlife mitigation in an airport setting
- Airport Driving & Security
- ATF certified
- Nuisance Wildlife Control Operator permitted

Colorado Parks and Wildlife
Swift Fox Field coordinator, Turkey Telemetry

- Landowner coordination and outreach
- Operated a trail camera (Reconyx PC800)
- Radio telemetry, GPS, Map Interpretation, Orienteering
- Experience working on Military maneuver grounds

Illinois Department of Natural Resources
Researcher 1, Deer Telemetry

- ArcGIS
- GPS, Aerial and Radio Telemetry
- Aerial telemetry
- Deer capture, tranquilization

Active Memberships

- Ducks Unlimited
- The Wildlife Society

CERTIFICATE OF COMPLETION

This certificate is awarded to:

Jon Wills

For successfully completing **Loomacres Wildlife Management**'s [illegible] Airport Wildlife Hazard Management Training Course at the [illegible] Metropolitan Airport March 12-14, 2013. This individual meets the training requirements set forth by the FAA under Title 14, Code of Federal Regulations, Part 139 and AC No. 150/5200-36A Certifications for Wildlife Biologists Conducting Wildlife Hazard Assessments.

LOOMACRES
Wildlife Management

[illegible] — [illegible] Date

Murray State University

The Board of Regents of Murray State University, upon Recommendation of the Faculty, has conferred on

Jonathan C. Wills

the degree of

Bachelor of Science

in recognition of the satisfactory fulfillment of the requirements pertaining to this degree.

This Diploma granted at Murray, Kentucky, this tenth day of May, two thousand and eight.

Chairman of the Board of Regents — President

Ted Igleheart

Loomacres Wildlife Management
Airport Wildlife Biologist

EDUCATION

University of Maine, Wildlife Ecology
University of Kentucky, Wildlife Biology

WORK EXPERIENCE

Loomacres Wildlife Management
Wildlife Biologist

- Conduct Airport Wildlife Hazard Assessments
- Create Wildlife Hazard Management Plans
- Bird and Mammal Surveys on Airports
- Wildlife Control and Management on Airports
- Airport Driving and Security
- FAA Qualified Airport Wildlife Biologist

Bureau of Land Management, Worland WY
Wildlife Biologist

- Responsible for the management of large mammals on BLM lands

CERTIFICATE OF COMPLETION

This certificate is awarded to:

Ted Igleheart

For successfully completing **Loomacres Wildlife Management's** Advanced Airport Wildlife Hazard Management Training Course at the Elmira Corning Regional Airport August 27-29 2012. This individual meets the *training* requirements set forth by the FAA under Title 14, Code of Federal Regulations, Part 139 and AC No: 150/5200-36A Qualifications for Wildlife Biologists Conducting Wildlife Hazard Assessments.

LOOMACRES
Wildlife Management

Cody L. Bacuska — 8/30/2012
Date

APPENDIX IV: TRAINING OUTLINE

8 Hour Wildlife Hazard Management and Bird Biology Training

General Outline

1 Introduction & Overview of Training Objectives
- A. Authority, Regulations, Legalities
- B. Wildlife Hazard Management Plan

2 General Challenges to Aviation Safety Presented by Wildlife
- A. Large and Small Mammals
- B. Various Avian Species
- C. On and Off-site Attractants

3 Practical Management Techniques
- A. Food, Cover, & Water
- B. Habitat Modification & Exclusion
  - a. Grass Management
  - b. Fencing
  - c. Brush Removal
- C. Repellents
  - a. Chemical, Audio, Visual
- D. Removal
  - a. Lethal
  - b. Non-Lethal

4 Reporting Procedures & Database
- A. Bird/Other Wildlife Strike Report

5 Maintenance of State & Federal Permits

7 Bird identification & Bird Biology
- A. Topography
- B. Flight and Feathers
- C. Molt and Migration
- B. Identification

8. Pyrotechnics and firearms usage and safety

9. Review and Exam

APPENDIX V: PROOF OF INSURANCE

ACORD **CERTIFICATE OF LIABILITY INSURANCE** DATE (MM/DD/YYYY) 12/17/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Lynn Burns
Eastern Shore Associates 101 Cayuga Street P.O. Box 480 Fulton NY 13069	PHONE (A/C, No, Ext): (315)598-6000 FAX (A/C, No): (315)598-1161 E-MAIL ADDRESS: lburns@esainsurance.com
	INSURER(S) AFFORDING COVERAGE — NAIC #
	INSURER A: Travelers Casualty Ins Co of — 19046
INSURED Loomacres Inc Po Box 301 Wernerville NY 12187	INSURER B: Travelers Indemnity Company — 25658
	INSURER C:
	INSURER D:
	INSURER E:
	INSURER F:

COVERAGES CERTIFICATE NUMBER: 13-14 Master REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X CPD1050494, CCP2041103 GEN'L AGGREGATE LIMIT APPLIES PER X POLICY PRO-JECT LOC			680-1647P823-13-42	10/23/2013	10/23/2014	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 300,000 $ 5,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS			BA-1652P593-13-SRL	10/23/2013	10/23/2014	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) MEDICAL PAYMENTS	$ 1,000,000 $ 5,000
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000			CUP-1704P176-13-42	10/23/2013	10/23/2014	EACH OCCURRENCE AGGREGATE	$ 3,000,000 $ 3,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					WC STATU-TORY LIMITS / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER	CANCELLATION
County of Mercer 640 South Broad Street Trenton, NJ 08650-0068	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Sheila Casper/GAIL

ACORD 25 (2010/05)

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 10/21/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

BUSINESS INSURANCE NOW

BI Insurance Holdings, LLC
1301 Central Expy. South, Suite 135
Allen, TX 75013

PHONE: [illegible] FAX: [illegible]

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Lloyd's / SafePro	AA 1129181
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED

Loomacres Inc.
134 MARKLEY ROAD, SUITE 1
COBLESKILL, NY 12043

COVERAGES   CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF	POLICY EXP	LIMITS	
	GENERAL LIABILITY: COMMERCIAL GENERAL LIABILITY; CLAIMS-MADE / OCCUR; GEN'L AGGREGATE LIMIT APPLIES PER: POLICY / PROJECT / LOC						EACH OCCURRENCE	$
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
							GENERAL AGGREGATE	$
							PRODUCTS - COMP/OP AGG	$
								$
	AUTOMOBILE LIABILITY: ANY AUTO; ALL OWNED AUTOS; SCHEDULED AUTOS; HIRED AUTOS; NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident)	$
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
								$
	UMBRELLA LIAB / EXCESS LIAB; OCCUR / CLAIMS-MADE; DEDUCTIBLE; RETENTION $						EACH OCCURRENCE	$
							AGGREGATE	$
								$
								$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY; ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N; If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					WC STATU-TORY LIMITS / OTH-ER	
							E.L. EACH ACCIDENT	$
							E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
A	[illegible]			[illegible]	[illegible]	[illegible]	Occurrence Aggregate	[illegible]

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER

Ricondo & Associates, Inc.
20 North Clark Street
Suite 1500
Chicago, IL 60602

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

[signature]

ACORD 25 (2009/09)   The ACORD name and logo are registered marks of ACORD

STATE OF NEW YORK
WORKERS' COMPENSATION BOARD

258
R054

CERTIFICATE OF NYS WORKERS' COMPENSATION INSURANCE COVERAGE

1a. Legal Name and address of Insured (Use street address only) LOCMACRIS, INC. PO BOX 763 WARNERVILLE NY 12187 Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e. a Wrap-Up Policy)	1b. Business Telephone Number of Insured (518) 542-6305 1c. NYS Unemployment Insurance Employer Registration Number of Insured 1d. Federal Employer Identification Number of Insured or Social Security Number 263396424
2. Name and Address of the Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) NYS DEPARTMENT OF LABOR STATE OFFICE BUILDING CAMPUS W AVERELL HARRIMAN BLDG 12 ALBANY, NY 12240	3a. Name of Insurance Carrier The Hartford Ins Group 3b. Policy Number of entity listed in box "1a": 39 WEC BT2923 3c. Policy effective period: 09/27/2013 to 09/27/2014 3d. The Proprietor, Partners or Executive Officers are: [X] included. (Only check box if all partners/officers included) [ ] all excluded or certain partners/officers excluded.

This certifies that the insurance carrier indicated above in box "3" insures the business referenced above in box "1a" for workers' compensation under the New York State Workers' Compensation Law. (To use this form, New York (NY) must be listed under Item 3A on the INFORMATION PAGE of the workers' compensation insurance policy). The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed above as the certificate holder in box "2".

The Insurance Carrier will also notify the above certificate holder within 10 days IF a policy is canceled due to nonpayment of premiums or within 30 days IF there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from the coverage indicated on this Certificate. (These notices may be sent by regular mail.) Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent or until the policy expiration date listed in box "3c", whichever is earlier.

Please Note: Upon the cancellation of the workers' compensation policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of Workers' Compensation Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has the coverage as depicted on this form.

Approved by: Danielle Clausen
(Print name of authorized representative or licensed agent of insurance carrier)

Approved by: Danielle Clausen 11/25/2013
(Signature) (Date)

Title: Operations Manager

Telephone Number of authorized representative or licensed agent of insurance carrier: 1 866 467 8730

Please Note: *Only insurance carriers and their licensed agents are authorized to issue the C-105.2 form. Insurance brokers are **NOT** authorized to issue it.*

APPENDIX VI: ADDENDUMS

NO ADDENDUMS RECIVED